Bonfiglioli
Riduttori

VF-W series

Riduttori a vite senza fine

Wormgears

Schneckengetrieben

Réducteurs a vis sans fin

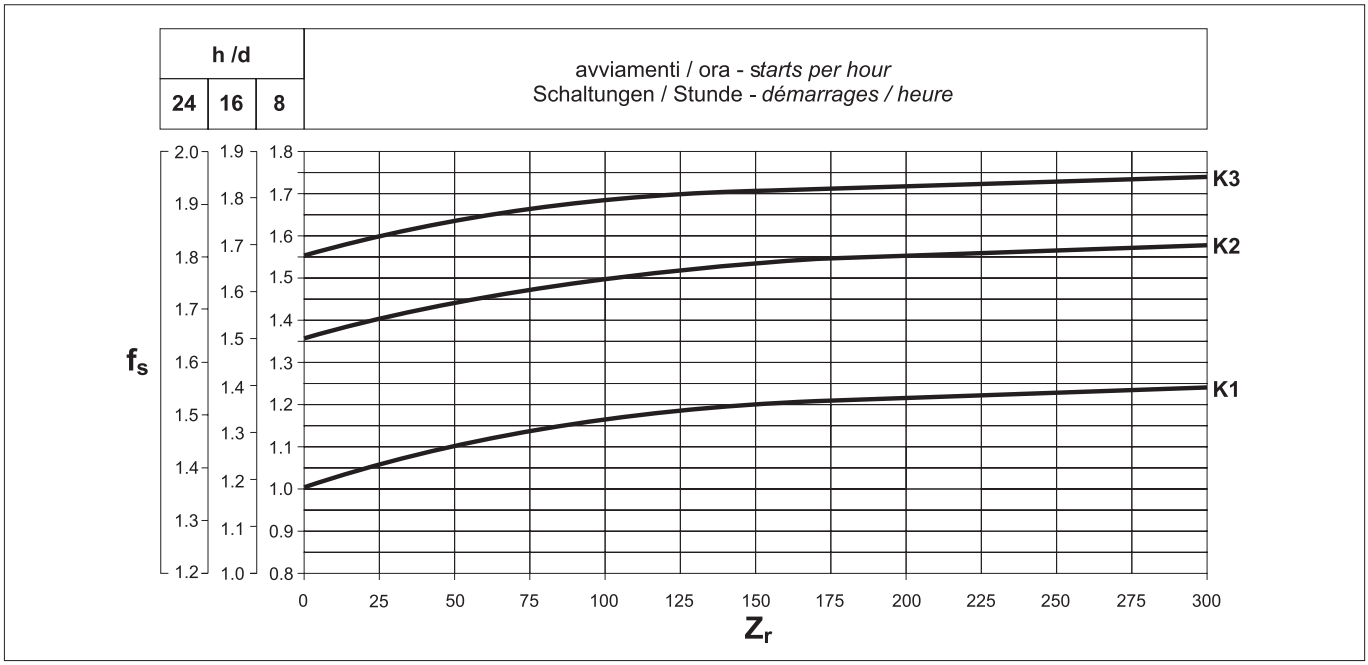
Bonfiglioli
power, control and green solutions

gato al rapporto fra le inerzie delle masse condotte e del motore.
Indipendentemente dal valore così ricavato del fattore di servizio, segnaliamo che esistono applicazioni fra le quali, a puro titolo di esempio i sollevamenti, per le quali il cedimento di un organo del riduttore potrebbe esporre il personale che opera nelle immediate vicinanze a rischio di ferimento.
Se esistono dubbi che l'applicazione possa presentare questa criticità vi invitiamo a consultare preventivamente il ns. Servizio Tecnico.

plications, which for example involve lifting of parts, failure of the reducer may expose the operators to the risk of injuries.
If in doubt, please contact Bonfiglioli's Technical Service.

sen K an die Betriebsart gekoppelt (annähernd: gleichmäßige, mittlere oder starke Belastung), der wiederum an das Verhältnis zwischen Trägheitsmoment der angetriebenen Massen und dem des Motors gebunden ist. Unabhängig von dem so erhaltenen Betriebsfaktor, möchten wir Sie darauf hinweisen, dass es Applikationen gibt, unter denen beispielsweise auch die Hebefunktionen zu finden sind, bei denen das Nachgeben eines Getriebeorgans, das in dessen Nähe arbeitende Personal einer Verletzungsgefahr aussetzen könnte. Sollten daher Zweifel darüber bestehen, ob die entsprechende Applikation sich in diesem Bezug als kritisch erweist, bitten wir Sie sich zuvor mit unseren Technischen Kundendienst in Verbindung zu setzen.

d'accélération des masses K, lié au rapport entre les inerties des masses conduites et le moteur.
Indépendamment de la valeur du facteur de service ainsi trouvée, nous signalons qu'il existe des applications parmi lesquelles, à titre d'exemple, les levages, pour lesquels la rupture d'un organe du réducteur pourrait exposer le personne opérant à proximité immédiate à des risques de lésion.
En cas de doute concernant les risques éventuels de l'application, nous vous conseillons de contacter préalablement notre Service Technique.



Fattore di accelerazione delle masse, [K]

Il parametro serve a selezionare la curva relativa al particolare tipo di carico. Il valore è dato dal rapporto:

Acceleration factor of masses, [K]

This parameter serves for selecting the right curve for the type of load. The value is given by the following ratio:

Beschleunigungsfaktor der Massen, [K]

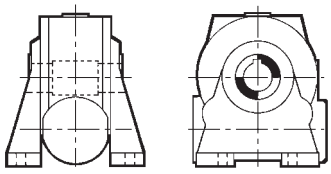
Dieser Parameter dient der Wahl der Kurve, die sich auf die jeweilige Belastungsart bezieht. Der Wert ergibt sich aus folgender Formel:

Facteur d'accélération des masses, [K]

Le paramètre sert à sélectionner la courbe relative au type de charge particulier. La valeur est obtenue par l'équation :

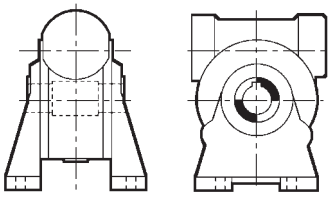
$$K = \frac{J_c}{J_m} \qquad (4)$$

VF_



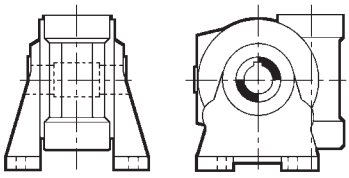
N **VF 27...VF 250**

Piedi e vite orizzontale in basso
Foot mounted, underdriven
Füßen und untenliegendet Schneckenwelle
Pattes et vis horizontale en bas



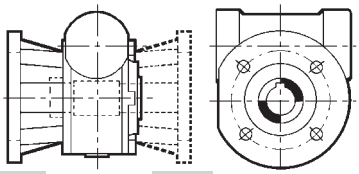
A **VF 27...VF 250**

Piedi e vite orizzontale in alto
Foot mounted, overdriven
Füßen und Schneckenwelle oben
Pattes et vis horizontale en haut



V **VF 27...VF 250**

Piedi e vite verticale
Foot mounted, wormshaft vertical
Füßen und senkrechter Schneckenwelle
Pattes et vis verticale



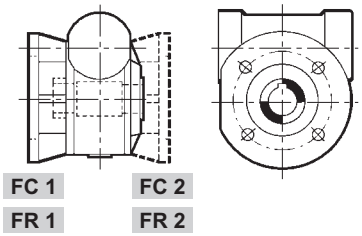
F 1 **F 2** **FA 1** **FA 2**

F **VF 27...VF 185**

Flangia standard
Standard flange
Standardflansch
Bride standard

FA **VF 44, VF 49**

Flangia alta
Extended output flange
Hohem Flansch
Bride haute



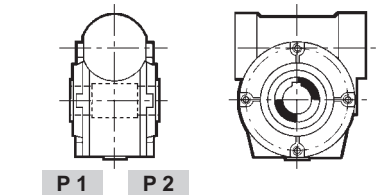
FC 1 **FC 2** **FR 1** **FR 2**

FC **VF 130...VF 185**

Flangia corta
Short flange
Kurzem Flansch
Bride courte

FR **VF 130...VF 185**

Flangia corta e cuscinetti rinforzati
Short flange and reinforced bearings
Kurze Flansch und verstärkten Lagerni
Bride courte et roulements renforcés

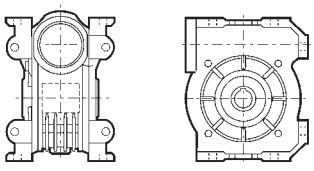


P 1 (VF 30...VF 250) **P 2** (VF 130...VF 185)

P **VF 30...VF 250**

P1 = P2	VF 30...VF 49 VF 210, VF 250

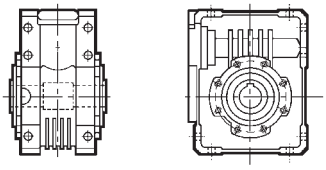
Flangia pendolare
Side cover for shaft mounting
Flansch für Drehmomentstütze
Bride pendulaire



U **VF 30...VF 49**

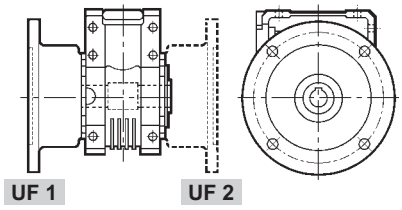
Piedi integrali
Foot mount
Mit integrierten Füben
Carter à pattes monobloc

W_



U **W 63...W 110**

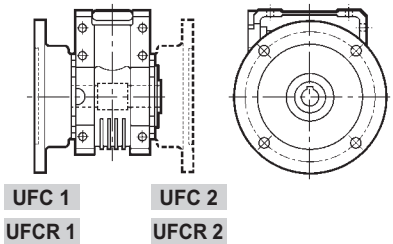
Cassa montaggio universale
Universal gear case
Universalgehäuse
Carter universel



UF 1 **UF 2**

UF **W 63...W 110**

Flangia di montaggio standard
Standard mounting flange
Standardanbauflansch
Bride standard



UFC 1 **UFC 2** **UFCR 1** **UFCR 2**

UFC **W 63...W 110**

Flangia di lunghezza ridotta
Mounting flange reduced in length
Kurzer Anbauflansch
Bride reduit en longeur

UFCR **W 75**

Flangia ridotta in lunghezza e diametro
Mounting flange reduced in length and diameter
Verkürzter Anbauflansch in Länge und Durchmesser
Bride reduit en longeur et diametre

RIDUTTORE / *GEAR UNIT* / GETRIEBE / *REDUCTEUR*

W 63 L1 UF1 — 24 S2 — B3 ....

OPZIONI / *OPTIONS*
OPTIONEN / *OPTIONS* 24

ESECUZ. DI MONTAGGIO / *MOUNTING ARRANGEMENT*
BAUFORM / *ASSEMBLAGE*

VF/VF, VF/W, W/VF	**CW (1, 2, 3, 4)** **CCW (1, 2, 3, 4)**

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POSIZIONE DI MONTAGGIO / *MOUNTING POSITION*
EINBAULAGEN / *POSITION DE MONTAGE*

VF 27...VF 49 VFR 44, VFR 49	**B3**
W, WR VF 130...VF 250 VFR 130...VFR 250	**B3** (default), **B6**, **B7**, **B8**, **V5**, **V6**
VF/VF VF/W W/VF 	**B3** (default), **B6**, **B7**, **B8**, **V5**, **V6**

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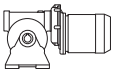
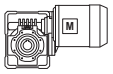
INTERFACCIA MOTORE IEC / *MOTOR MOUNTING*
MOTOR BAUFORM / FORME DE CONSTRUCTION DU MOTEUR

B5	(VF 30...VF 250, VFR 49...VFR 250, W, WR)
B14	(VF 30…VF 49, W)

109
110

DESIGNAZIONE INGRESSO / *INPUT CONFIGURATION*
BEZEICHNUNG DER ANTRIEBSSEITE / *DESIGNATION ENTREE*

	VF	**VFR**	**W**	**WR**	**VF/VF**	**VF/W**	**W/VF**
P(IEC)	 P27 (VF 27 only), P56...P225	 P63, P80...P160	 P71...P132	 P63...P112	 P56, P63, P90...P132	 P56...P80	 P71...P112
S_	⛔	 S44 (VFR 44 only)	 S1...S3	⛔	⛔	⛔	 S1...S3
HS							

109
110
110
183
...
186

RAPPORTO DI RIDUZIONE / *GEAR RATIO* / ÜBERSETZUNG / *RAPPORT DE REDUCTION*

DIAMETRO ALBERO LENTO / *OUTPUT SHAFT BORE*
ABTRIEBSWELLE DURCHMESSER / DIAMETRE ARBRE LENT

W 75 VF/W 44/75	**D30** (default), **D28** (Su richiesta / *on request* / Option / *sur demande)*

FORMA COSTRUTTIVA / *VERSION* / BAUFORM / *FORME DE CONSTRUCTION* 18

LIMITATORE DI COPPIA / *TORQUE LIMITER* / RUTSCHKUPPLUNG / *LIMITEUR DE COUPLE*

VF, VFR W, WR	**L1**, **L2**	VF/VF	**LF**

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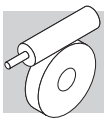
GRANDEZZA RIDUTTORE / *GEAR FRAME SIZE* / GETRIEBEBAUGRÖSSE / *TAILLE REDUCTEUR*

VF	**27**, **30**, **44**, **49**, **130**, **150**, **185**, **210**, **250**	VF/VF	**30/44**, **30/49**, **130/210**, **130/250**
VFR	**44**, **49**, **130**, **150**, **185**, **210**, **250**	VF/W	**30/63**, **44/75**, **44/86**, **49/110**
W, WR	**63**, **75**, **86**, **110**	W/VF	**63/130**, **86/150**, **86/185**

TIPO RIDUTTORE / *GEARBOX TYPE* / GETRIEBETYP / *TYPE DU REDUCTEUR*

VF, **W**	Riduttore a vite senza fine / Worm gearbox / Schneckengetriebe / *Réducteur a vis sans fin*
VFR, **WR**	Riduttore con precoppia elicoidale / *Helical-worm gear unit* / Schneckengetriebe mit Vorstufe / *Réducteur avec pre-étage*
VF/VF, **VF/W**, **W/VF**	Riduttore combinato / *Combined gearbox* / Doppelschneckengetriebe / *Réducteur combiné*



12.2 Designazione motore ***12.2 Motor designation*** **12.2 Motor Bezeichnung** ***12.2 Désignation moteur***

MOTORE / *MOTOR* / MOTOR / *MOTEUR* — FRENO / *BRAKE* / BREMSE / *FRENO*

BN 63A 4 230/400-50 IP54 CLF ... **W** **FD** 3.5 R SB 220SA ...

OPZIONI / *OPTIONS*
OPTIONEN / *OPTIONS*

ALIMENT. FRENO / *BRAKE SUPPLY*
BREMSVERSORGUNG / *ALIMENT. FREIN*

TIPO ALIMENTATORE / *RECTIFIER TYPE*
GLEICHRICHTERTYP / *TYPE ALIMENTATEUR*

M	**NB, SB, NBR, SBR**
K	**—**
BN	**NB, SB, NBR, SBR**

LEVA DI SBLOCCO FRENO
BRAKE HAND RELEASE
BREMSENTHANDLÜFTUNG
LEVIER DE DEBLOCAGE FREIN

M	**R, RM**
K	**R**
BN	**R, RM**

COPPIA FRENANTE / *BRAKE TORQUE*
BREMSMOMENT/ *COUPLE FREIN*

TIPO FRENO / *BRAKE TYPE* / BREMSENTYP / *TYPE DE FREIN*

M	**FD, FA**
K	**FC**
BN	**FD, FA, BA**

POSIZIONE MORSETTIERA / *TERMINAL BOX POSITION*
KLEMMENKASTENLAGE / *POSITION BOITE A BORNE*

M	**W** (default)**, N, E, S**
K	**W** (default)**, N, E, S**
BN	**W** (default)**, N, E, S**

FORMA COSTRUTTIVA / *MOTOR MOUNTING*
BAUFORM / FORM DE CONSTRUCTION

M	**—**
K	**B5**
BN	**B5, B14**

CLASSE ISOLAMENTO / *INSULATION CLASS*
ISOLIERUNGSKLASSE / CLASSE ISOLATION
CL F standard **CL H** option

GRADO DI PROTEZIONE / *DEGREE OF PROTECTION*
SCHUTZART / *DEGRE DE PROTECTION*
IP55 standard (IP54 - autofr. / *brake motor* / Bremssmotor / *moteur frein*)

TENSIONE-FREQUENZA / *VOLTAGE-FREQUENCY* / SPANNUNG-FREQUENZ / *TENSION-FREQUENCE*

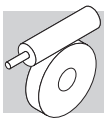
NUMERO DI POLI / *POLE NUMBER* / POLZAHL / *N.bre POLES*
2, 4, 6, 2/4, 2/6, 2/8, 2/12, 4/6, 4/8

GRANDEZZA MOTORE / *MOTOR SIZE* / MOTOR-BAUGRÖSSE / *TAILLE MOTEUR*

M	**1SC...3LC**
K	**63 - 71**
BN	**56...225** BN 27, BN 44 (motori speciali / special motors / Spezialmotoren / moteurs speciaux)

TIPO MOTORE/ *MOTOR TYPE* / MOTORTYP / *TYPE MOTEUR*

M	trifase integrato / 3-phase integral / kompaktes Dreiphasen / 3 phasé compact
K	trifase compatto / three phase motor compact type / Drehstrom - Kompaktmotor / Moteur triphasè compact
BN	trifase IEC / IEC 3-phase / IEC Dreiphasen / 3 phasé CEI



13 - OPZIONI RIDUTTORE

SO

I riduttori VF 30 ... VF 49, W 63 ... W 86, solitamente riempiti in fabbrica di lubrificante, sono in questo caso forniti privi di olio.

LO

I riduttori delle grandezze da VF 130 a VF 250 e W 110, solitamente sprovvisti di lubrificante, sono richiesti con olio sintetico del tipo correntemente utilizzato da BONFIGLIOLI RIDUTTORI e riempiti in accordo alla posizione di montaggio specificata.
L'applicabilità dell'opzione LO è descritta nella tabella seguente.

13 - GEARBOX OPTIONS

SO

Gear units VF 30 ... VF 49 and W 63 ... W 86, usually factory filled with oil, are, in this case, supplied unlubricated.

LO

Gearboxes VF 130…VF 250 and W 110, usually supplied unlubricated, to be filled with synthetic oil currently used by BONFIGLIOLI RIDUTTORI according to the mounting position specified.
The applicability of the LO option is described in the table below.

13 - GETRIEBE OPTIONEN

SO

Die Getriebe VF 30 ... VF 49 und W 63 ... W 86, das normalerweise sind mit Schmiermittel geliefert, werden ohne Öl geliefert.

LO

Die normalerweise ohne Schmiermittel gelieferten Getriebe vom VF 130…VF 250 und W 110, die gewöhnlich ohne Schmiermittel geliefert werden, in Übereinstimmung mit der Einbaulage gefüllt mit dem normalerweise von BONFIGLIOLI RIDUTTORI verwendeten synthetischen Schmierstoff. Die Anwendbarkeit der Option LO wird in der folgenden Tabelle näher erläutert.

13 - OPTIONS REDUCTEURS

SO

Les réducteurs VF 30 ... VF 49, W 63 ... W 86, habituellement fourni avec lubrifiant, sont livrés sans huile.

LO

Les réducteurs VF 130…VF 250 et W 110, habituellement dépourvus de lubrifiants, sont demandés avec huile synthetique du type couramment utilisé par BONFIGLIOLI RIDUTTORI et remplis conformément à la position de montage demandée.
L'applicabilité de l'option LO est décrite dans le tableau suivant.

	LO					
	Posizione di montaggio / *Mounting position* / Einbaulage / *Position de montage*					
	B3	**B6**	**B7**	**B8**	**V5**	**V6**
W 110 U-UF-UFC	X	X	X	X	⊖	⊖
VF 130 A-N-P-F-FC	X	X	X	X	⊖	⊖
VF 130 V	⊖	X	X	⊖	X	X
VF 130 FR	X	⊖	⊖	X	⊖	⊖
VF 150 A-N-P-F-FC	X	X	X	X	⊖	⊖
VF 150 V	⊖	X	X	⊖	X	X
VF 150 FR	X	⊖	⊖	X	⊖	⊖
VF 185 A-N-P-F-FC	X	X	X	X	⊖	⊖
VF 185 V	⊖	X	X	⊖	X	X
VF 185 FR	X	⊖	⊖	X	⊖	⊖
VF 210 A-N-P	X	⊖	⊖	X	⊖	⊖
VF 210 V	⊖	⊖	⊖	⊖	X	X
VF 250 A-N-P	X	⊖	⊖	X	⊖	⊖
VF 250 V	⊖	⊖	⊖	⊖	X	X

RB

Albero veloce sporgente sul lato opposto comando.

RBO

Albero veloce sporgente sul 2° riduttore.
(solo per esecuzioni combinate)

VV

Anello di tenuta in Viton® sull'albero veloce. Disponibile solo per gruppi serie VF, ad esclusione di VF 30 con opzione RB, e VF 30_HS.

PV

Fornitura di anelli di tenuta in Viton® sia sull'albero lento sia sull'albero veloce, ad esclusione di VF 30 con opzione RB, e VF 30_HS.

KA

Kit piedi W 63...W 110 per intercambiabilità con gruppi equivalenti VF_A.

KV

Kit piedi W 63...W 110 per intercambiabilità con gruppi equivalenti VF_V. (escluso W con opzione RB).

RB

Double-ended input shaft at non-drive- end.

RBO

Double-ended input shaft at N.D.E. of 2nd gearbox.
(combined execution only)

VV

Viton® oil seal on input shaft. The option is only available for units of the VF series, barring all VF 30's c/w option RB and VF 30_HS.

PV

Oil seals from Viton® compound on both the input and the output shaft, barring all VF 30's c/w option RB and VF 30_HS.

KA

VF_A interchangeability kit. Option is available for units W 63 to W 110.

KV

VF_V interchangeability kit (barring W + option RB). Option is available for units W 63 to W 110.

RB

Zweites Wellenende gegenüber von Eingangswelle.

RBO

Zusätzliches Schneckkenwellenende am 2. Getriebe. (nur bei Doppelschneckengetrieben)

VV

Wellendichtringe aus Viton® auf der Antriebswelle. Lieferbar nur für die VF-Reihe. Ausschließlich VF 30 nach Ausführung RB und/oder HS.

PV

Alle Wellendichtringen aus Viton®. Ausschließlich VF 30 nach Ausführung RB und/oder HS .

KA

Durch mit VF_A austauschbarem Satz - Abstellfüße komplettiert.

KV

Durch mit VF_V austauschbarem Satz - Abstellfüße komplettiert (W mit Option RB ausgeschlos).

RB

Vis saillante sur le côté opposé commande.

RBO

Vis saillante sur le 2ème réducteur (seulement pour les exécutions combinées)

VV

Bague d'étanchéité en Viton® sur arbre rapide. Disponible uniquement pour groupes VF, a l'exclusion de VF 30 avec option RB et VF 30_HS.

PV

Les réducteurs sont équipées de bagues d'étanchéité en Viton® soi sur l'arbre se sortie que sur l'arbre d'entrée, a l'exclusion de VF 30 avec option RB et VF 30_HS.

KA

Kit pieds pour interchangeabilité avec groupe équivalent type VF_A.

KV

Kit piedes pour interchangeabilitè avec groupe équivalent type VF_V (a l'exclusion de W avec option RB).

AO

Albero su lato opposto a standard (VF 27).

Opzioni motori
Per informazioni sulle opzioni, consultare i relativi capitoli nella sezione Motori Elettrici.

14 - POSIZIONI DI MONTAGGIO E ORIENTAMENTO MORSETTIERA

Gli orientamenti delle morsettiere dei motori sono identificati osservando il motore dal lato ventola; l'orientamento pre-impostato in fabbrica è evidenziato in nero (W).

Le posizioni morsettiera illustrate non sono valide per VFR 44. Fare riferimento alle pag. 23 e alle pag. 126...131 per la designazione e l'identificazione della forma costruttiva.

Posizione angolare leva di sblocco freno.
Nei motori autofrenanti, la leva di sblocco freno (se richiesta) ha l'orientamento standard a 90° rispetto alla morsettiera (posizione AB); specificare con relative opzioni qualora l'orientamento desiderato sia diverso.

Nelle pagine seguenti sono descritte le posizioni di montaggio dei riduttori tipo VF e W.

Per i riduttori combinati tipo VF/VF, VF/W e W/VF le posizioni di montaggio si riferiscono al secondo riduttore (lato macchina), per il primo riduttore (lato ingresso) fare riferimento al capitolo "Esecuzione di montaggio".

AO

Output shaft on side opposite to standard (VF 27).

Motor options
For more detailed information please consult the Electric Motor section in this book.

14 - MOUNTING POSITION AND TERMINAL BOX ANGULAR LOCATION

Location of motor terminal box can be specified by viewing the motor from the fan side; standard location is shown in black (W).

The terminal box positions indicated do not apply to VFR 44. Please refer to page 23 and pages 126...131 for designation and identification of design version.

Angular location of the brake release lever.
Unless otherwise specified, brake motors have the manual device side located, 90° apart from terminal box.
Different angles can be specified through the relevant options available.

The following pages describe the mounting positions of VF and W series gearboxes.

In the case of VF/VF, VF/W and W/VF gearbox combinations, mounting positions refer to the second (machine side) gearbox. Refer to the "Mounting version" chapter for details of the first (input side) gearbox.

AO

Abtriebswelle auf die Gegenseite als Standard (VF 27).

Optionen Motoren
Detaillierte Informationen entnehmen Sie bitte dem Kapitel "Elektromotoren".

14 - EINBAULAGEN UND LAGE DES KLEMMENKASTENS

Die Angaben zur Lage des Klemmenkastens beziehen sich auf das von der Lüfterseite her betrachtete Getriebe. Die Standardorientierung ist schwarz hervorgehoben (W).

Die in der Tabelle dargestellten Positionen auf der Klemmenleiste sind für VFR 44 gültig. Für die Zzuordnung und die identifizierung der Bauform ist Bezug auf die Seiten 23 und 126...131 zu nehmen.

Winkellage des Handlüfterhebels.
Bei Bremsmotoren wird der Handlüfterhebel (auf Anfrage) standardmäßig auf 90° gegenüber des Klemmkastens (AB-Anordnung) geliefert; wird eine andere Anordnung verlangt, muß dies bei der Bestellung durch das geeignete Option angegeben werden.

Auf den nachfolgenden Seiten sind die Einbaulagen der Getriebetypen VF und W beschrieben.

Für die kombinierten Getriebe der Typen VF/VF, VF/W und W/VF beziehen sich die Einbaulagen auf das zweite Getriebe (Maschinenseite); hinsichtlich des ersten Getriebes (Antriebsseite) ist auf das Kapitel "Ausführung des Einbaus" Bezug zu nehmen.

AO

Arbre cotè opposè par rapport au standard (VF 27).

Options moteurs
Pour plus d'informations sur les options, consulter les chapitres correspondants dans la section Moteurs électriques.

14 - POSITIONS DE MONTAGE ET ORIENTATION BOITE A BORNE

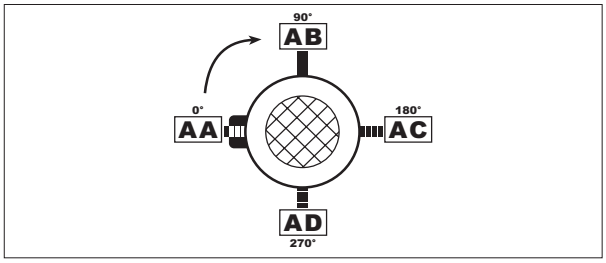
Les orientations des boîtes à bornes des moteurs sont définies en regardant le moteur du côté ventilateur. L'orientation standard est indiquée en noir (W).

Les positions de la boite à bornes ne sont pas valables pour VFR 44. Se reporter à la page 23 et aux pages 126...131 pour la désignation et l'identification de la forme de construction.

Position angulaire levier déblocage frein.
Dans les moteurs freins, ce levier (si requis) aura l'orientation standard de 90° par rapport à la boîte à bornes (position AB); spécifier avec options relatives si l'orientation desirée est différente.

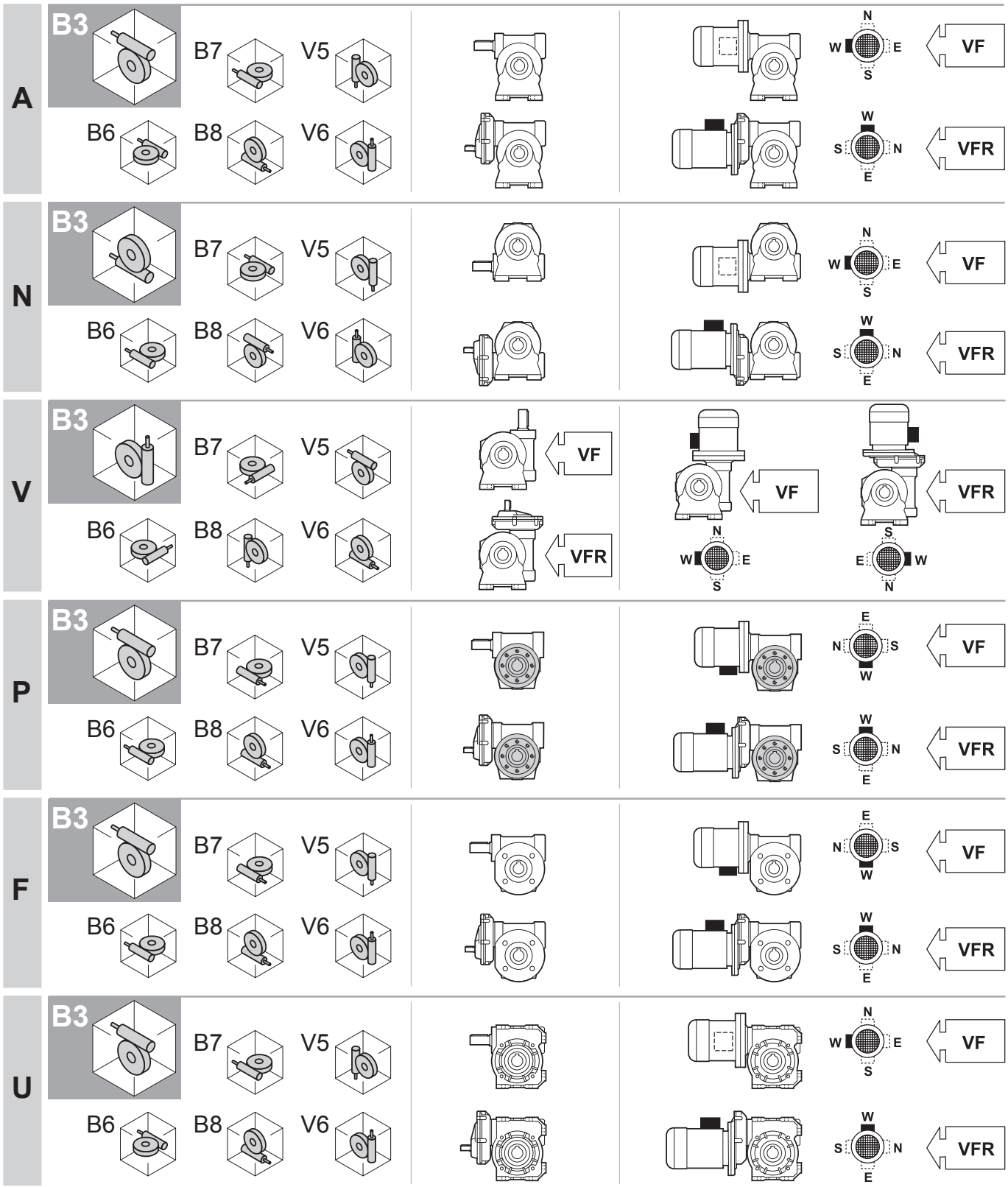
Dans les pages suivantes sont décrites les positions de montage des réducteurs de type VF et W.

Pour les réducteurs combinés de type VF/VF, VF/W et W/VF, les positions de montage se réfèrent au second réducteur (côté machine) ; pour le premier réducteur (côté entrée), consulter le chapitre « Exécution du montage ».



	Legenda:	*Key:*	Zeichenerklärung:	*Légende:*
	Tappo di sfiato / carico	*Filling / breather plug*	Einfüll / Lüfterschraube	*Bouchon de event / remplissage*
	Tappo di livello	*Level plug*	Ölstandsschraube	*Bouchon de niveau*
	Tappo di scarico	*Drain plug*	Ablaßschraube	*Bouchon de vidange*
	Tappo in vista	*Plug in sight*	Sichtbarer Deckel	*Bouchon visible*
	Tappo non in vista	*Plug not in sight*	Nicht sichtbarer Deckel	*Bouchon non visible*

VF 27 _ ... VF 49 _ VFR 44 _ , VFR 49 _



Posizione di montaggio base.
I riduttori sono targati esclusivamente nella posizione di montaggio base (B3) ma possono essere installati anche nelle posizioni derivate (B6, B7, B8, V5, V6). Dopo l'installazione la posizione di montaggio non può essere variata.

Base mounting position.
Gearboxes are plated only for base mounting position (B3). They can nevertheless also be installed in any of the derived positions (B6, B7, B8, V5, V6). Mounting position may not be changed after installation.

Grundeinbaulage.
Die Getriebe sind ausschließlich in der Grundeinbaulage (B3) beschildert; sie können aber auch in abgeleiteten Einbaulagen (B6, B7, B8, V5, V6) installiert werden. Nach der Installation ist es nicht möglich, die Einbaulage zu ändern.

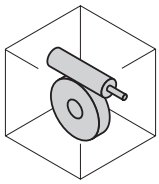
Position de montage de base.
Les réducteurs sont marqués exclusivement dans la position de montage de base (B3) mais ils peuvent être installés également dans des positions dérivées (B6, B7, B8, V5, V6). Après l'installation, la position de montage ne peut pas être modifiée.

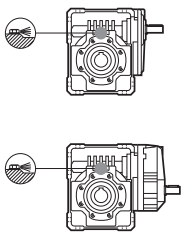
W 63 U ... W 86 U WR 63 U ... WR 86 U

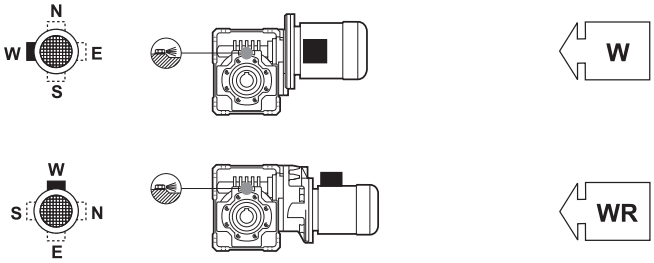
_HS

_S - _P (IEC)

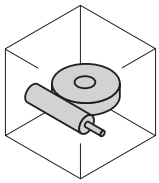
B3

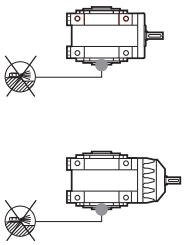


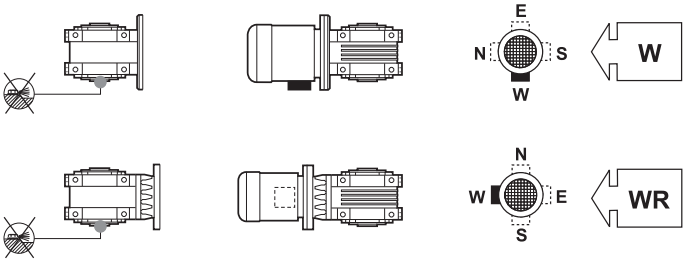




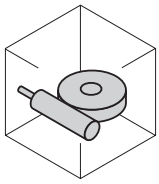
B6

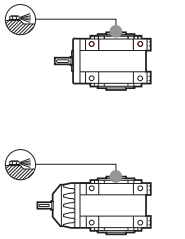


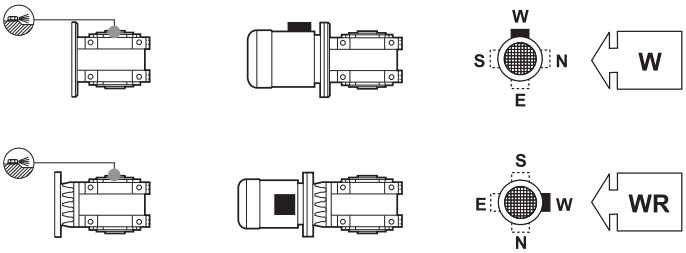




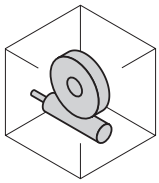
B7

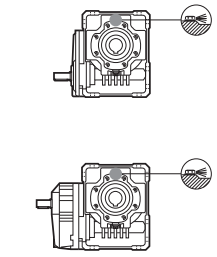


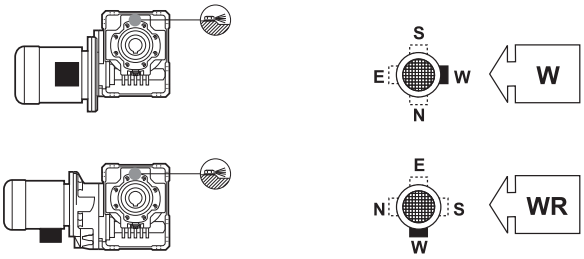




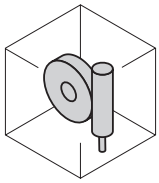
B8

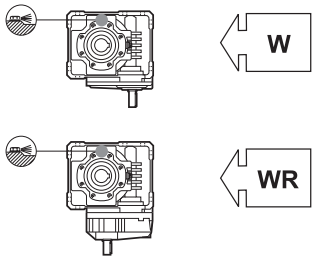


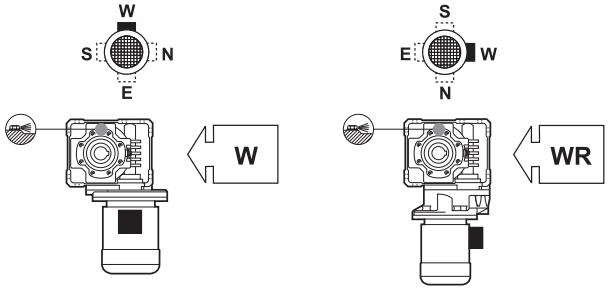




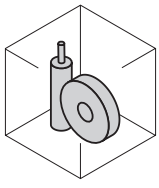
V5

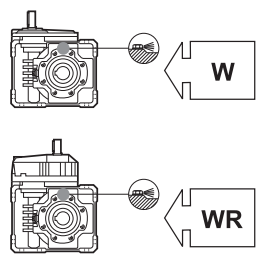


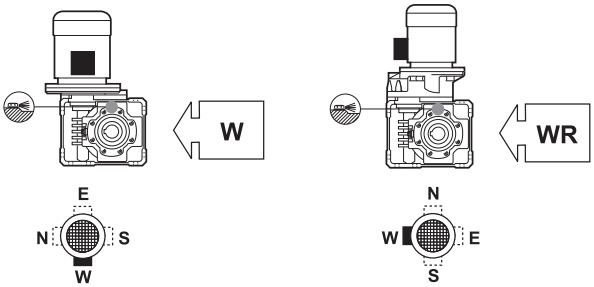




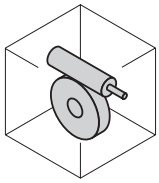
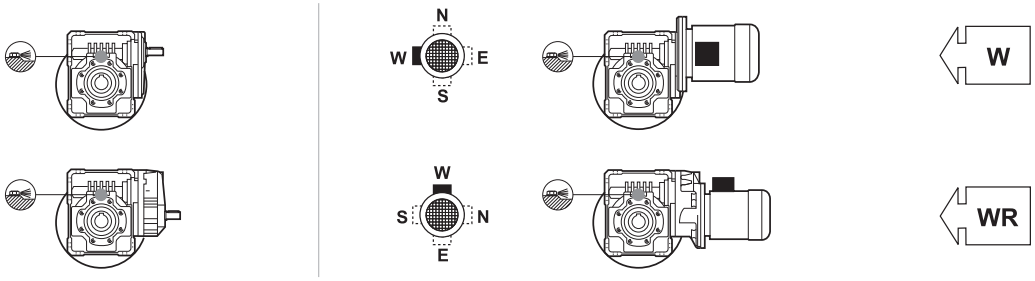
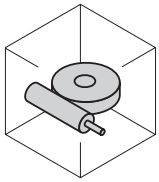
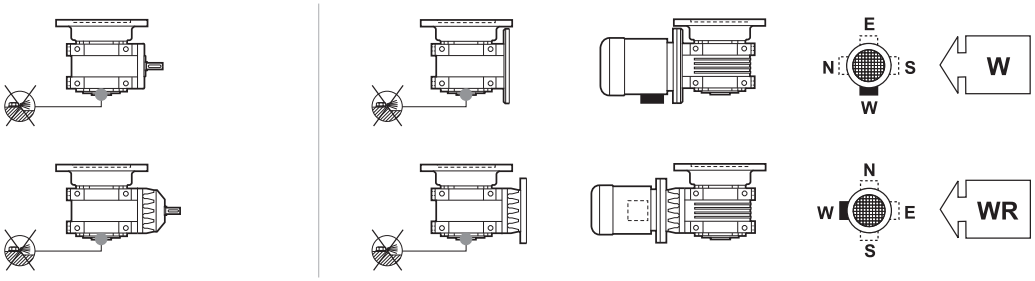
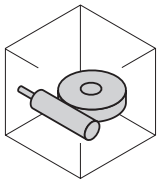
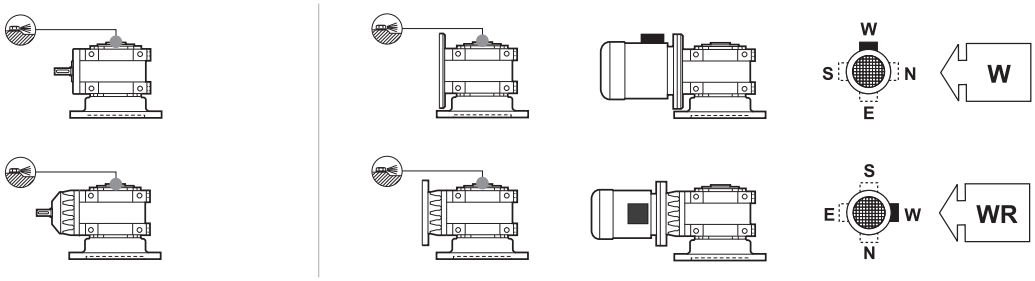
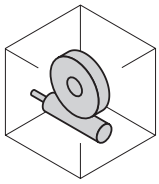
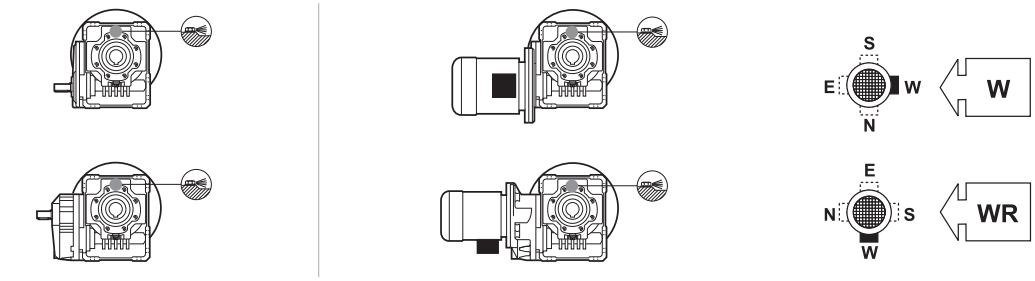
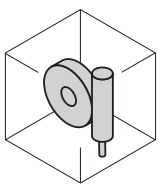
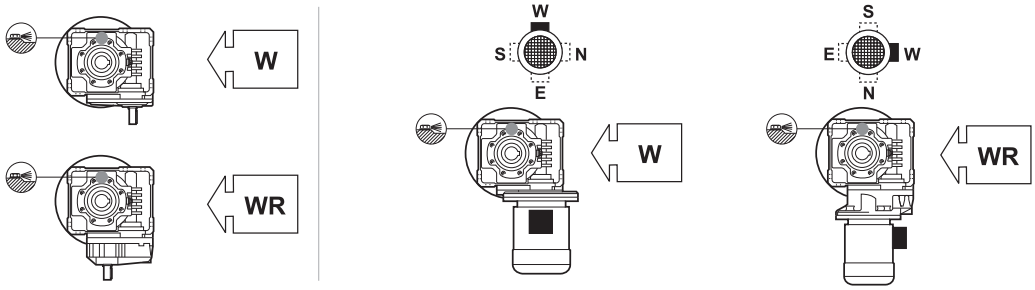
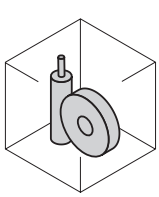
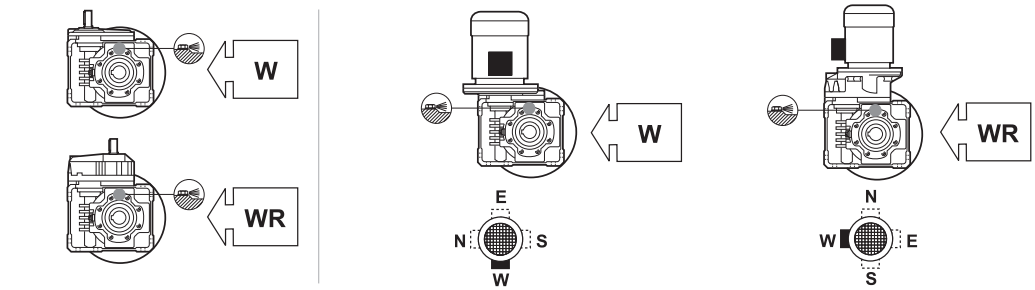
V6





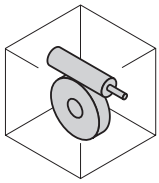


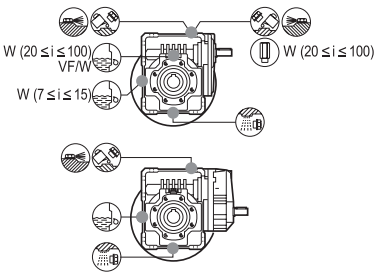
W 63 UF/UFC ... W 86 UF/UFC WR 63 UF/UFC ... WR 86 UF/UFC

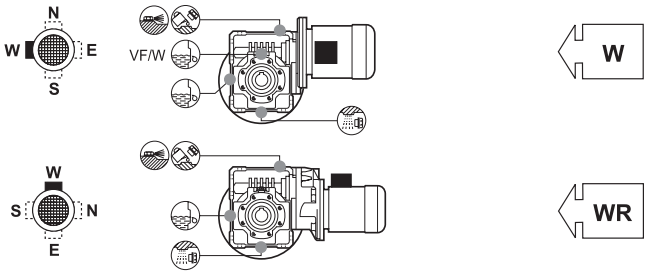
	_HS	_S - _P (IEC)
B3		
B6		
B7		
B8		
V5		
V6		

W 110 UF/UFC WR 110 UF/UFC

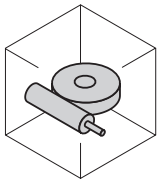
B3

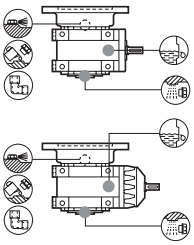


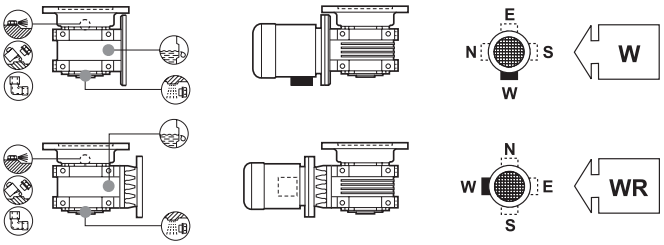




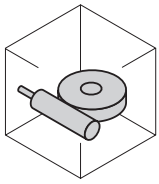
B6

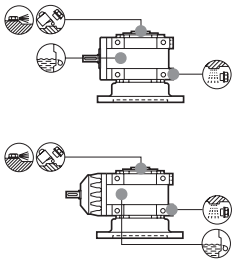


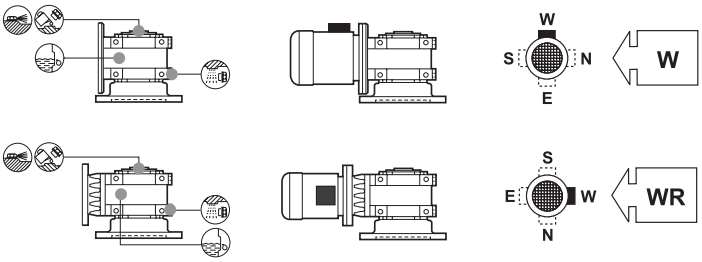




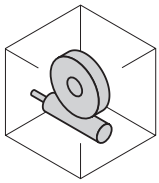
B7

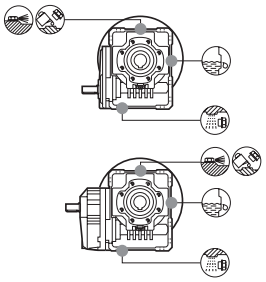


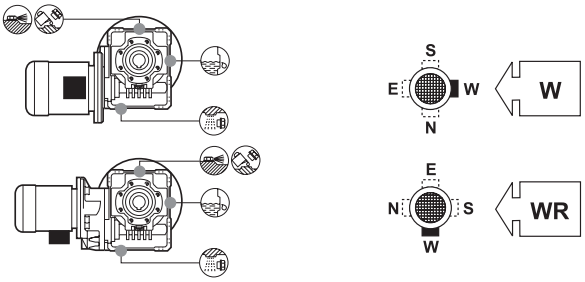




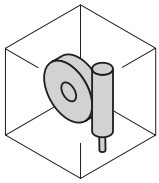
B8

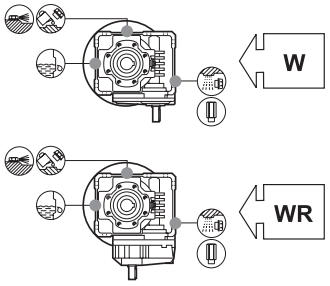


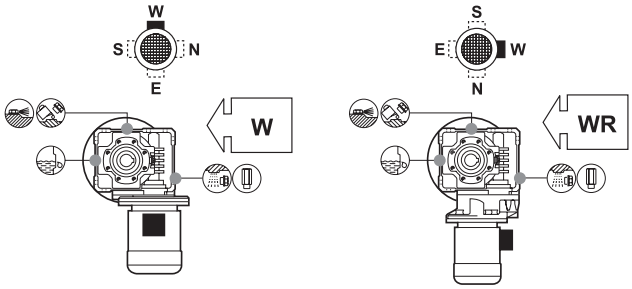




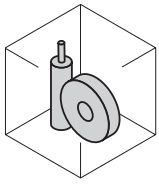
V5

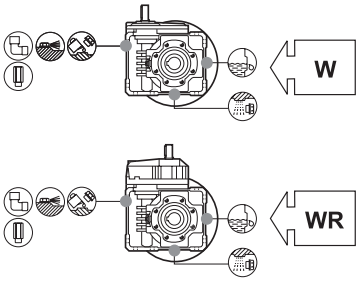


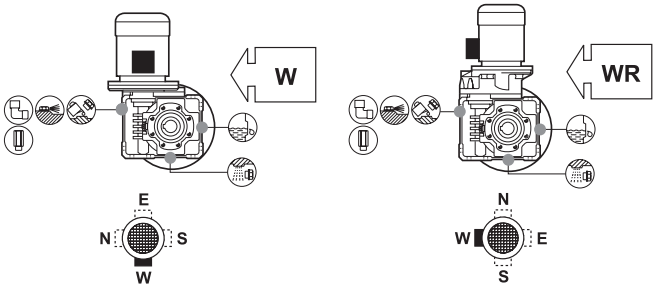




V6







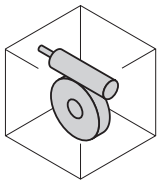
Bonfiglioli Riduttori

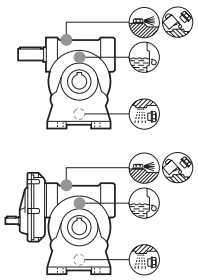
VF 130 A ... VF 250 A VFR 130 A ... VFR 250 A

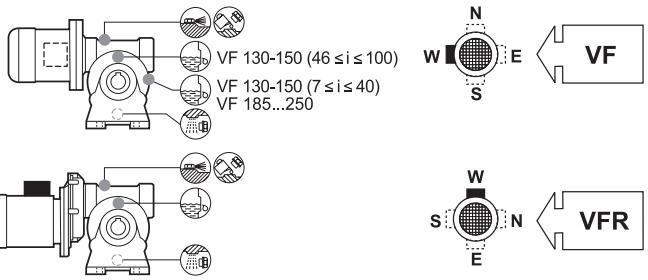
_HS

_P (IEC)

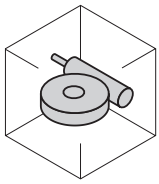
B3

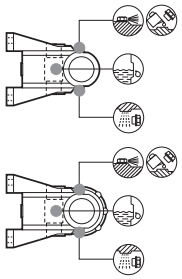


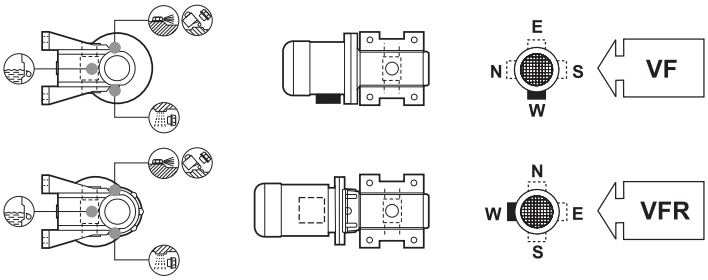




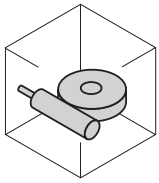
B6

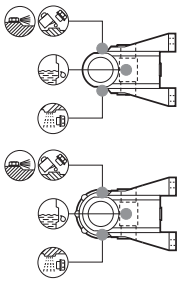


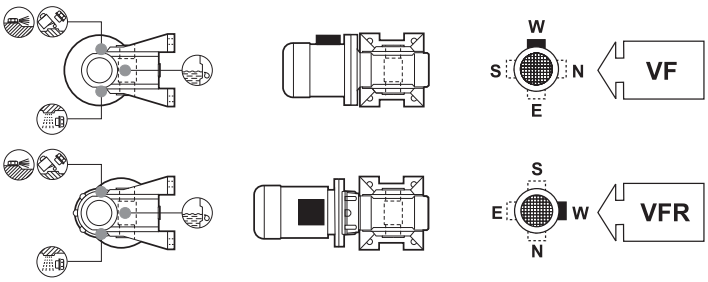




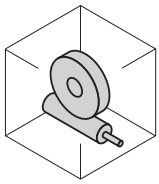
B7

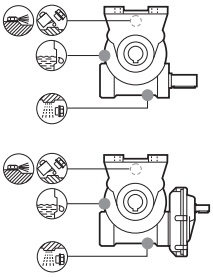


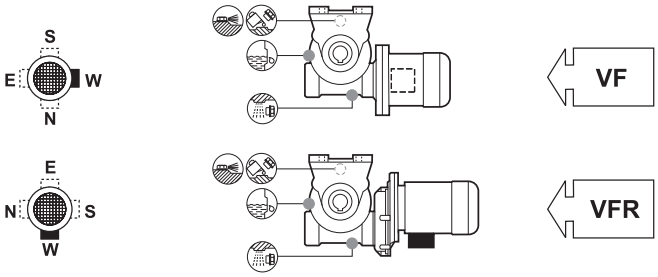




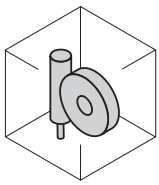
B8

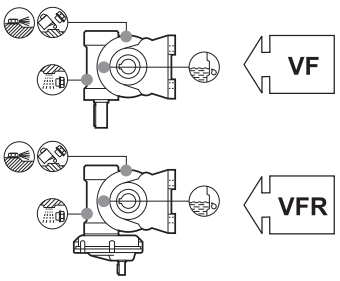


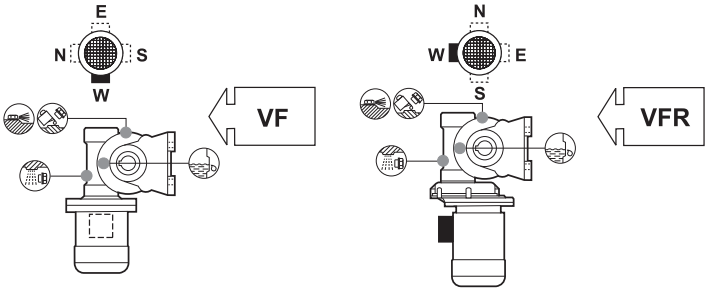




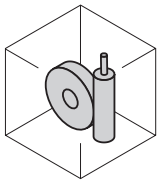
V5

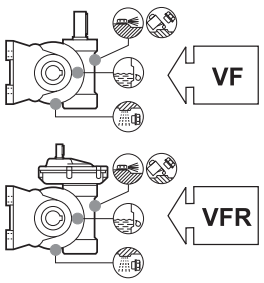


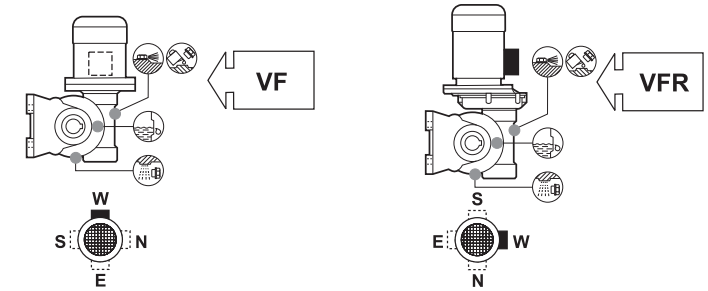




V6





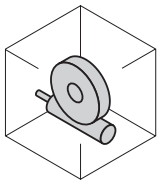


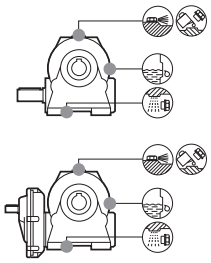
VF 130 N ... VF 250 N VFR 130 N ... VFR 250 N

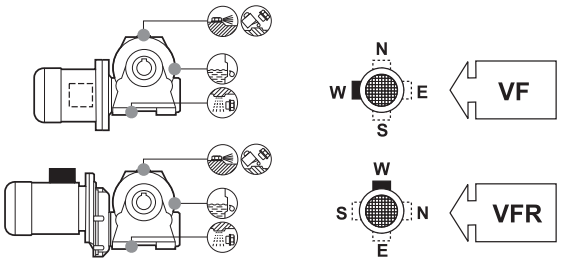
_HS

_P (IEC)

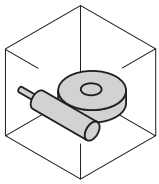
B3

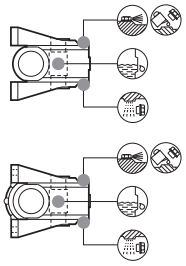


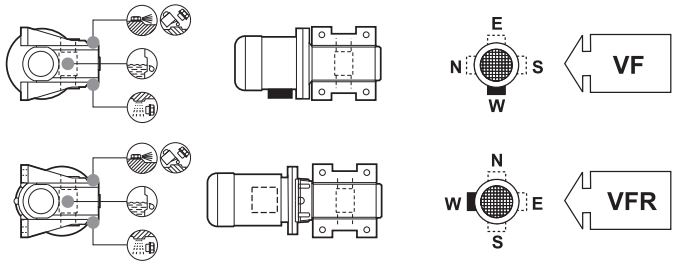




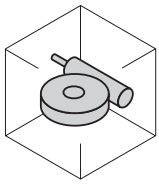
B6

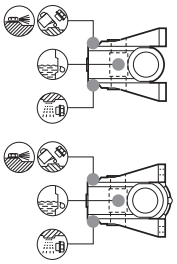


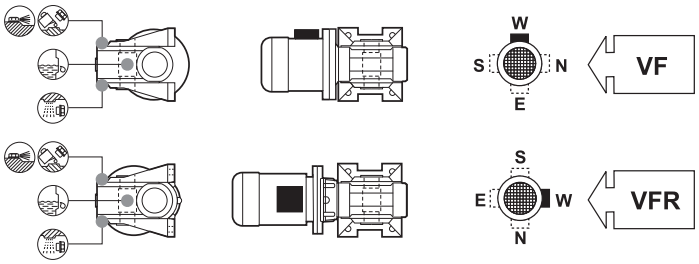




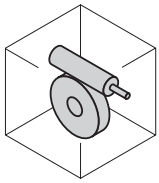
B7

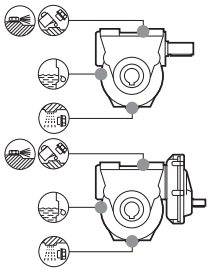


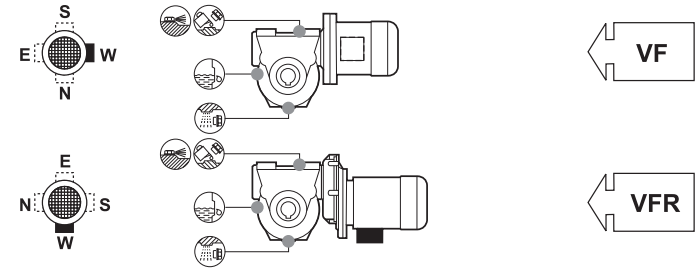




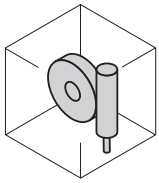
B8

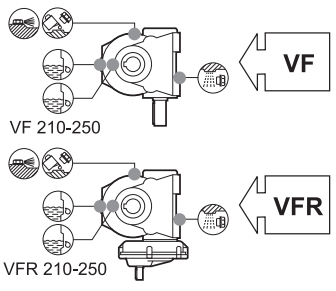


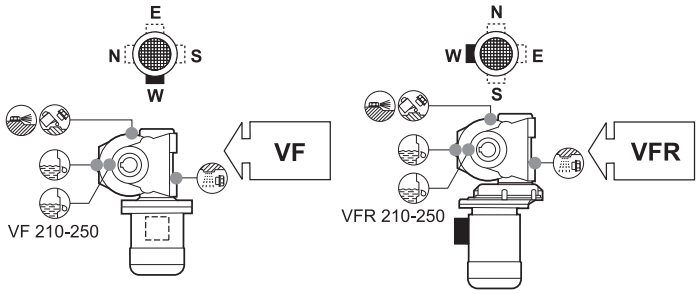




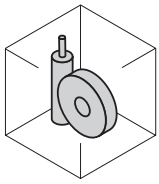
V5

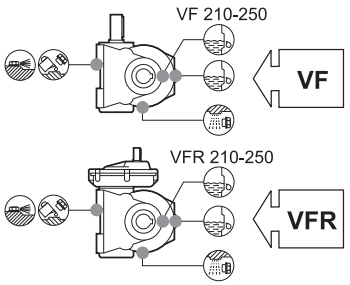


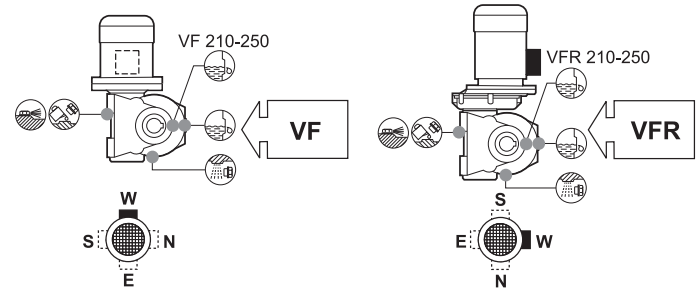




V6





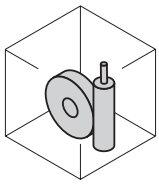


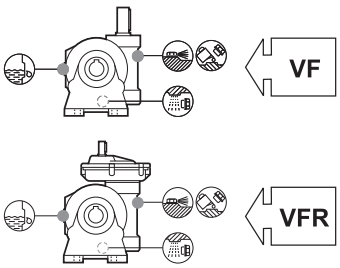
VF 130 V ... VF 250 V VFR 130 V ... VFR 250 V

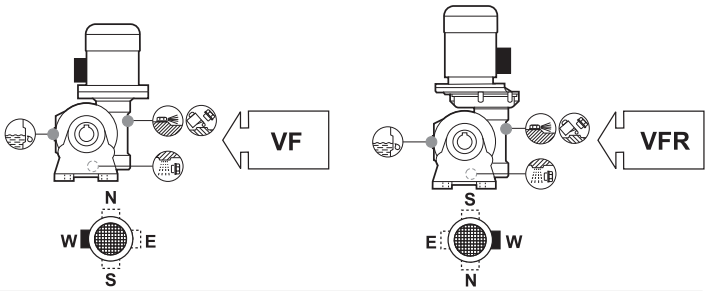
_HS

_P (IEC)

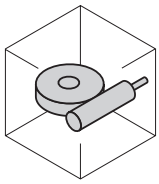
B3

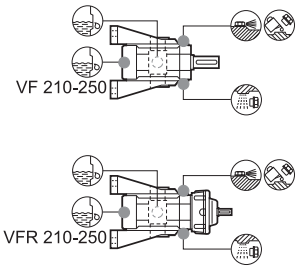


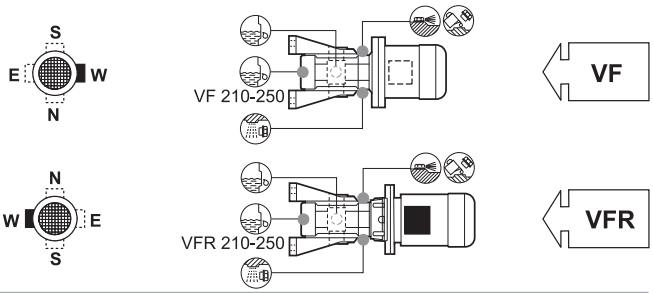




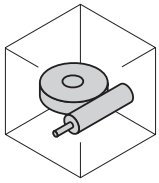
B6

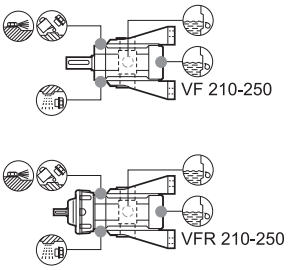


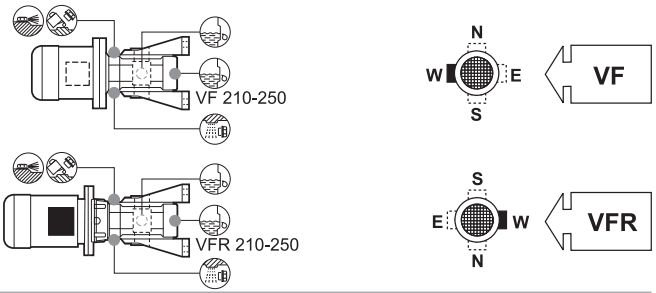




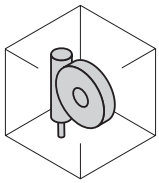
B7

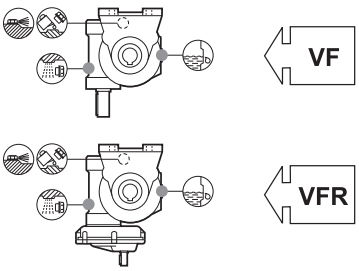


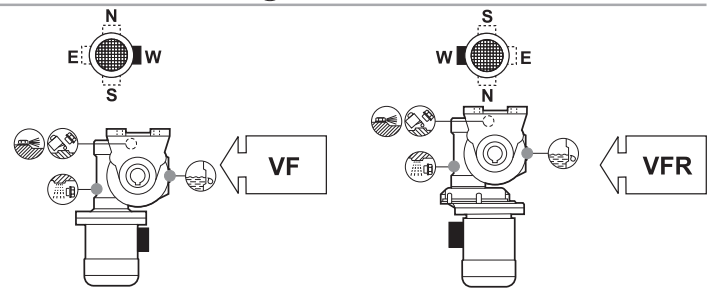




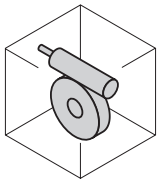
B8

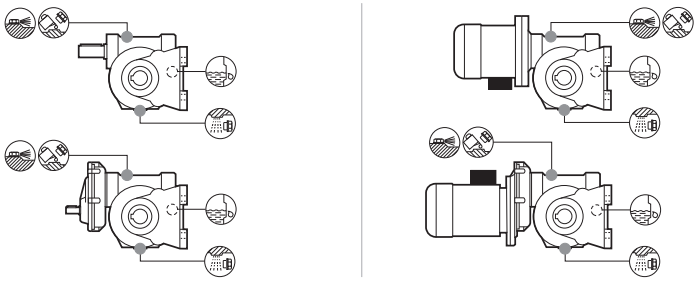




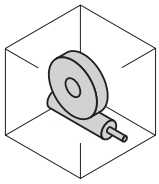


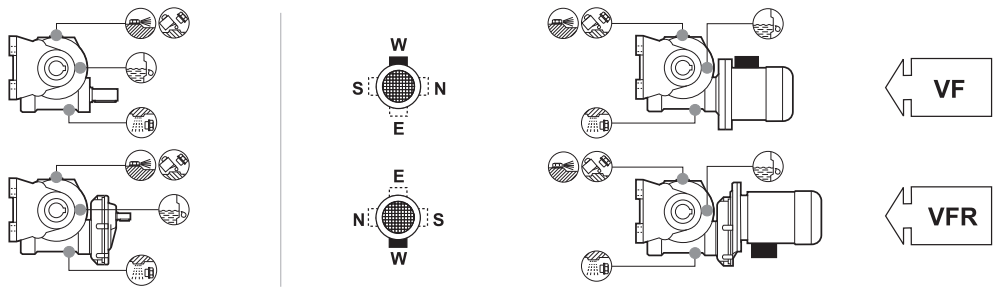
V5





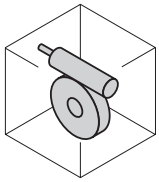
V6

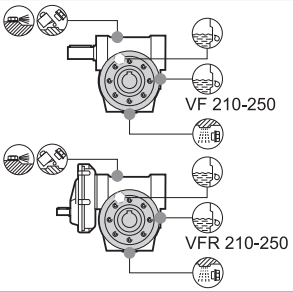


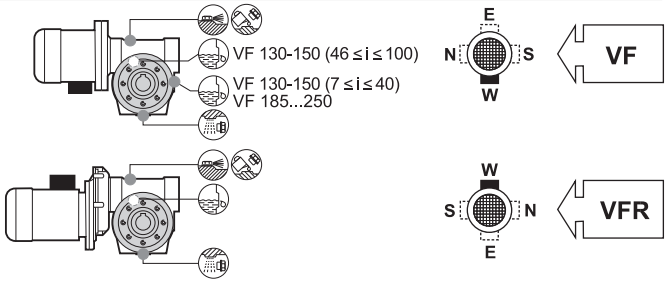


VF 130 P ... VF 250 P VFR 130 P ... VFR 250 P

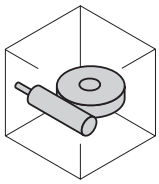
B3

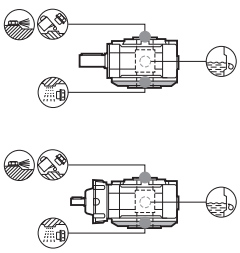


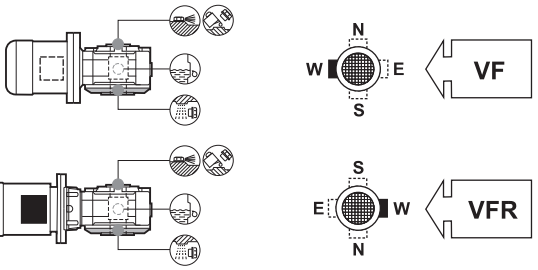




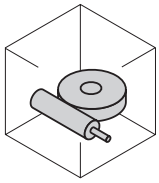
B6

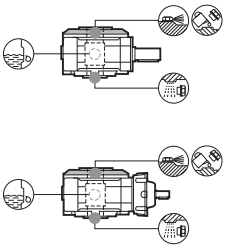


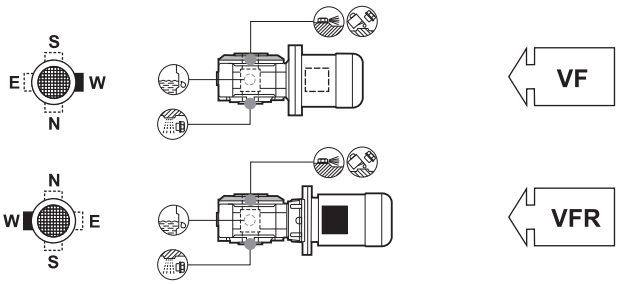




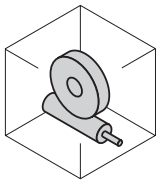
B7

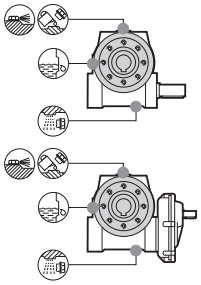


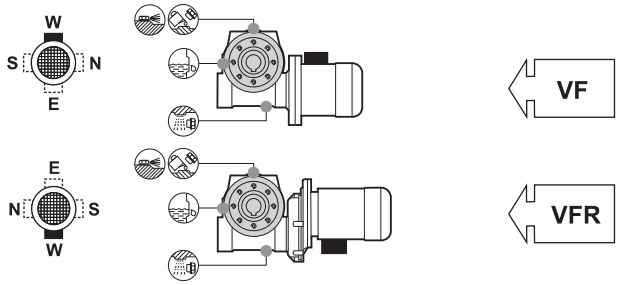




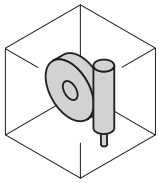
B8

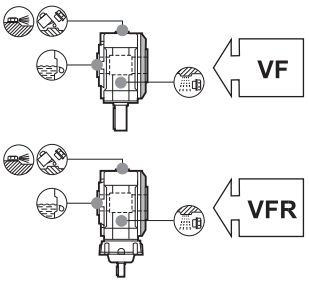


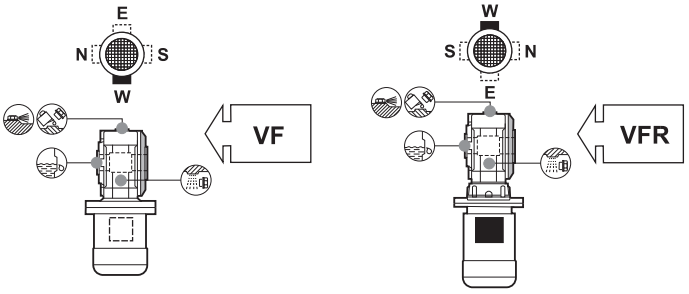




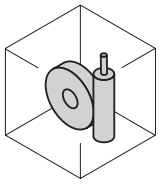
V5

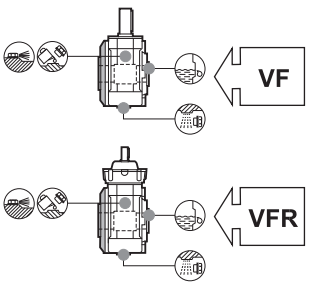


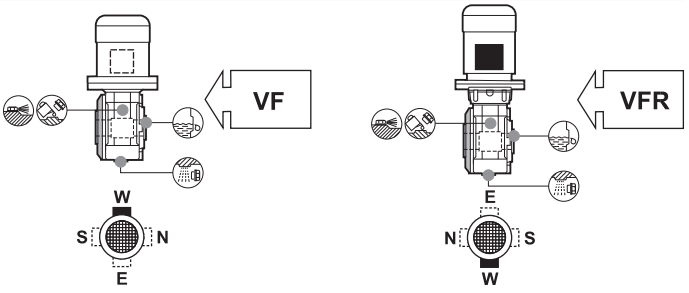




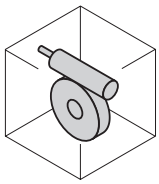
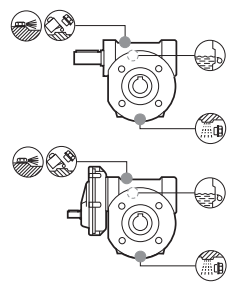
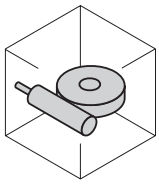
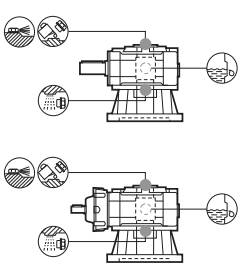
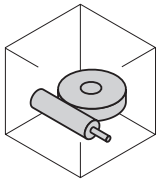
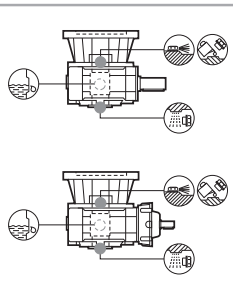
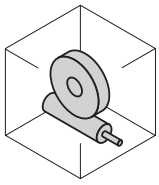
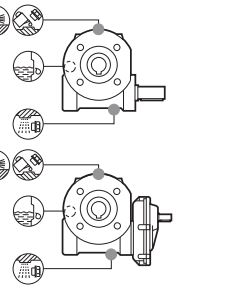
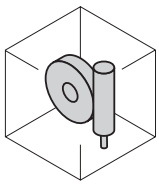
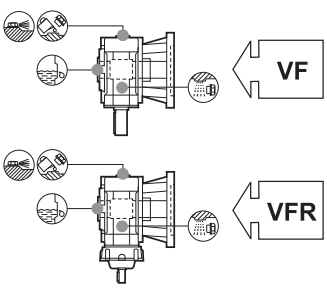
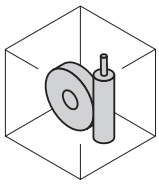
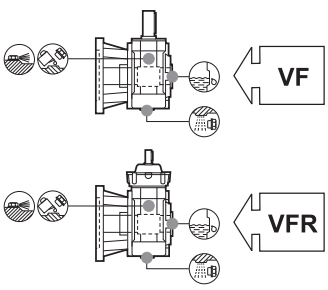
V6

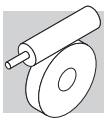






VF 130 F ... VF 250 F VFR 130 F ... VFR 250 F

	_HS	_P (IEC)
B3		
B6		
B7		
B8		
V5		
V6		



15 - LUBRIFICAZIONE

15.1 Lubrificazione riduttori W e VF

I gruppi VF 27 ... VF 49, W 63 ... W 86 sono normalmente consegnati con carica di lubrificante del tipo “long life” dalla fabbrica, o dalla rete di vendita ufficiale. Su richiesta gli stessi riduttori possono essere forniti privi di lubrificante, specificando per questi l’opzione **SO**. L'applicabilità dell'opzione è descritta nel capitolo "OPZIONI RIDUTTORE".

I gruppi VF 130 ... VF 250 e W 110 sono normalmente forniti privi di lubrificante e sarà cura dell’utilizzatore riempirli di olio prima della messa in servizio.
Per questi stessi gruppi è disponibile l’opzione **LO** che, qualora specificata in fase di ordinativo, garantisce il primo riempimento in fabbrica con lubrificante sintetico, in quantità dipendente dalla posizione di montaggio. L'applicabilità dell'opzione è descritta nel capitolo "OPZIONI RIDUTTORE".

Le tavole che seguono sono da riferimento nell’interpretazione delle posizioni di montaggio, della collocazione dei tappi di servizio e delle quantità di lubrificante.
Queste ultime sono indicative, e per il corretto riempimento si dovrà fare riferimento alla mezzeria del tappo, o dell’astina di livello, se presente. Rispetto a questa condizione la quantità di lubrificante riportata in tabella può presentare scostamenti, occasionalmente anche rilevanti.

Il lubrificante “long life” fornito di serie è di natura sintetica e, a meno di contaminazione dall’esterno, non richiede sostituzioni periodiche per tutto l’arco di vita del riduttore.
Il funzionamento dei riduttori è ammesso per temperature ambiente comprese fra -20°C e +40°C. Per temperature ambiente comprese fra -20°C e -10°C l’avviamento del riduttore potrà avvenire solo dopo aver effettuato un pre-riscaldamento progressivo ed omogeneo del gruppo, oppure con funzionamento “a vuoto”, senza carico collegato.
Il carico potrà poi essere applicato all’albero del riduttore quando la temperatura dello stesso avrà raggiunto la temperatura di -10°C, o superiore.

15 - LUBRICATION

15.1 Lubrication for W and VF

*Frame sizes VF 27 ... VF 49, W 63 ... W 86 are supplied by the factory, or by authorized dealers, already filled with “long life” synthetic oil. On request, these units can be supplied unlubricated, in which case, the option **SO** must be specified on the order. The applicability of the option is described in the chapter “GEARBOX OPTIONS”.*

*Unless otherwise specified, units type VF 130 ... VF 250 and W 110 are generally supplied unlubricated at it is the customer’ responsibility to fill them with oil prior to putting them into operation. By requesting the **LO** option at the time of order, these units will be factory filled with synthetic lubricant in the quantity relevant to the mounting position that was specified in the purchase order. The applicability of the option is described in the chapter “GEARBOX OPTIONS”.*

The charts below must be referred to for the mounting position and related oil plugs, if applicable, as well as the lubricant quantity.
Oil quantities are approximate only. For correct filling always refer to the centre of the sight glass or the dipstick, when this is supplied.
In some cases, even substantial discrepancies may occur compared to the oil quantities listed in the chart.

In the absence of contamination, the “long life” synthetic lubricant supplied by the factory, does not require periodical changes throughout the lifetime of the gear unit.
Operation of gear units is permitted at ambient temperatures between -20°C and +40°C. However, for temperatures between -20°C and -10°C unit may only start up after it has been progressively and evenly pre-heated, or otherwise initially operated unloaded.
Load may then be connected to the output shaft when the gear unit has reached the temperature of -10°C, or higher.

15 - SCHMIERUNG

15.1 Schmierung der Getriebe der serie W und VF

Die Getriebegrößen VF 27 ... VF 49, W 63 ... W 86 sind bei der Lieferung ab Werk bzw. ab offiziellem Verkaufsnetz mit einer synthetischen “Long-Life” -Dauerschmierung versehen. Auf Anfrage können die oben benannten Einheiten auch ohne Öl geliefert werden. Hier muss bei der Bestellung die Option **SO** angegeben werden. Die Anwendbarkeit der Option wird im Kapiel „GETRIEBE OPTIONEN“ näher erläutert.

Falls nicht anders spezifiziert werden die Getriebe VF 130 ... VF 250 und W 110 grundsätzlich ohne Ölfüllung ausgeliefert. Vor der Inbetriebnahme muss das Getriebe kundenseitig mit der richtigen Ölfüllmenge befüllt werden. Sollten Sie diese Getriebe mit der Option **LO** bestellen, werden die Einheiten direkt vom Werk aus mit synthetischem Öl, gemäß der spezifizierten Einbaulage, befüllt. Die Anwendbarkeit der Option wird im Kapiel „GETRIEBE OPTIONEN“ näher erläutert.

Die folgenden Tabellen dienen für die Interpretation der Einbaulagen, für die Anbringung der Stopfen und der Ölfüllmengen.
Die angegebene Ölfüllmengen sind Anhaltswerte! Je nach Einbaulage muss das Getriebe bis zur Mitte des Stopfens bzw., falls vorhanden, des Pegelstabes befüllt werden. Bitte beachten Sie, dass die tatsächlichen Füllmengen u.U. stark von den Tabellenwerten abweichen können.

Die mit Lebensdauerschmierung gelieferten Getriebe sind mit synthetischem Öl auf Polyglykolbasis befüllt. Sollte das Öl nicht durch äußere Einwirkungen verunreinigt werden, benötigt das Getriebe über die gesamte Lebensdauer keinen Ölwechsel. Die Getriebe dürfen bei einer Umgebungstemperatur von -20°C bis +40°C betrieben werden. Allerdings darf ein Start unter Last bei -20°C bis -10°C erst nach stufenweiser und gleichmäßiger Vorwärmung erfolgen.
Anderfalls muss das Anfahren ohne Last erfolgen. Die Last darf erst zugeschaltet werden, wenn die Getriebeeinheit eine Temperatur von mindestens -10° oder höher erreicht hat.

15 - LUBRIFICATION

15.1 Lubrification reducteurs serie W et VF

*Les groupes VF 27 ... VF 49, W 63 ... W 86 sont normalement livrés par l’usine, ou par le réseau de vente officiel, avec une charge de lubrifiant synthétique. Sur demande les mêmes réducteurs peuvent être fourni sans lubrifiant, en spécifiant l’option **SO**. L’applicabilité de l’option est décrite dans le chapitre « OPTIONS REDUCTEURS ».*

*Les groupes VF 130 ... VF 250 et W 110 sont normalement fournis sans lubrifiant, le remplissage précédent la mise en service sera à la charge de l’utilisateur. En précisant l’option **LO** lors de la commande, ces groupes seront remplis d’huile synthétique en usine, avec la quantité correspondant à la position de montage. L’applicabilité de l’option est décrite dans le chapitre « OPTIONS REDUCTEURS ».*

Les tables suivantes sont la référence dans l’interprétation des positions de montage, le placement des bouchons de service et pour la quantité de lubrifiant.
Ces dernières sont indicatives, et pour un remplissage correct il faut faire référence au milieu du bouchon de niveau ou à la jauge à huile, si présents. Par rapport à cette condition la quantité de lubrifiant indiqué dans le tableau peut présenter des écarts, occasionnellement considérables.

Le lubrifiant “long life” ; fourni de série est de nature synthétique et, à moins de contamination par l’extérieur, il ne demande pas des remplacements périodiques pour toute la durée de vie du réducteur. Le même lubrifiant permet de fonctionner à des températures ambient $0 \leq t_a \leq 50$ °C.
Le fonctionnement des réducteurs est admis pour des températures ambiantes comprises entre -20°C et +40°C.
Pour des températures ambiantes comprises entre -20°C et -10°C le démarrage du réducteur est admis seulement après un préchauffage progressif et homogène, ou avec un fonctionnement « à vide », sans charge appliquée. La charge pourra être ensuite appliquée à l’arbre du réducteur quand celui-ci aura atteint une température de -10°C, ou supérieure.

VF 27...VF 49, VFR44, VFR 49: questi riduttori vengono forniti completi di olio in quantità tale da consentire l'installazione in qualsiasi posizione di montaggio.

VF 27...VF 49, VFR44, VFR 49: *these units are factory-filled with oil which allows installation in any mounting position.*

VF 27...VF 49, VFR44, VFR 49: Diese Getriebe werden komplett mit Öl geliefert, dessen Quantität ausreicht, dass die Installation in jeder beliebigen Einbaulage erfolgen kann.

VF 27...VF 49, VFR44, VFR 49: *ces réducteurs sont fournis avec de l'huile en quantité suffisante pour permettre l'installation dans n'importe quelle position de montage.*

			oil [l]					
			B3	**B6**	**B7**	**B8**	**V5**	**V6**
VF 27	N - A - V - F	HS - P27	0.025	0.025	0.025	0.025	0.025	0.025
VF 30	N - A - V - F - P - U	HS - P(IEC)	0.045	0.045	0.045	0.045	0.045	0.045
VF 44	N - A - V - F - FA - P - U	HS - P(IEC)	0.075	0.075	0.075	0.075	0.075	0.075
VFR 44	N - A - V - F - FA - P - U	S44	0.050	0.050	0.050	0.050	0.050	0.050
VF 49	N - A - V - F - FA - P - U	HS - P(IEC)	0.12	0.12	0.12	0.12	0.12	0.12
VFR 49	N - A - V - F - FA - P - U	HS - P(IEC)	0.065	0.065	0.065	0.065	0.065	0.065

Posizione di montaggio base.

Base mounting position.

Grundeinbaulage.

Position de montage de base.

Posizioni di montaggio derivate dalla posizione base B3.

Mounting positions derived from base position B3.

Von der Grundeinbaulage B3 abgeleitete Einbaulagen.

Positions de montage dérivées de la position de base B3.

Riduttori normalmente dotati di carica di lubrificante "a vita".

Life-time lubricated gear units.

Getriebe, zu deren normaler Ausstattung eine Schmierstoffladung für Dauerschmierung gehört.

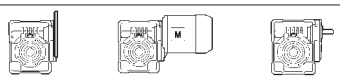
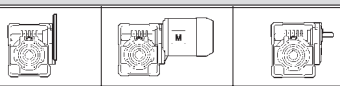
Réducteurs normalement livrés avec un plein de lubrifiant « à vie ».

Per i gruppi VFR la quantità si riferisce al lubrificante del solo pre-stadio di riduzione elicoidale.

For VFR units the lubricant charge refers only to the additional helical reduction.

Bei den VFR-Gruppen bezieht sich die Menge nur auf den Schmierstoff in der Varianzstufe des Stirnradgetriebes.

Pour les groupes VFR, il s'agit de la quantité de lubrifiant du seul pré-étage de réduction hélicoïdale.

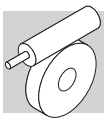
		oil [l]						39
		**B3**	**B6**	**B7**	**B8**	**V5**	**V6**	**R**
W 63	i = 7, 10, 12, 15	0.31	0.31	0.31	0.31	0.31	0.31	0.15
	i = 19, 24, 30, 38, 45, 64, 80, 100	0.38	0.38	0.38	0.38	0.38	0.38	
W 75	i = 7, 10, 15	0.48	0.48	0.48	0.48	0.48	0.48	0.25
	i = 30, 40	0.52	0.52	0.52	0.52	0.52	0.52	
	i = 20, 25, 50, 60, 80, 100	0.56	0.56	0.56	0.56	0.56	0.56	
W 86	i = 7, 10, 15	0.64	0.64	0.64	0.64	0.64	0.64	0.25
	i = 30	0.73	0.73	0.73	0.73	0.73	0.73	
	i = 20, 23, 40, 46, 56 ,64, 80, 100	0.90	0.90	0.90	0.90	0.90	0.90	
		**B3**	**B6**	**B7**	**B8**	**V5**	**V6**	**R**
W 110	P80…P132 M2 - M3 $7 \le i \le 15$	1.6	1.7	1.7	1.9	1.9	1.8	0.40
	- - $20 \le i \le 100$	2.8	1.7	1.7	1.9	1.9	1.8	-

Riduttori normalmente dotati di carica di lubrificante "a vita".

Life-time lubricated gear units.

Getriebe, zu deren normaler Ausstattung eine Schmierstoffladung für Dauerschmierung gehört.

Réducteurs normalement livrés avec un plein de lubrifiant « à vie ».



			oil [l]					
			B3	B6	B7	B8	V5	V6
VF 130	N	HS - P(IEC)	2.3	2.5	2.5	3.0	3.2	3.4
VFR 130	N	HS - P(IEC)	0.70	0.50	0.50	0.40	0.40	0.50
VF 130	V	HS - P(IEC)	3.4	2.5	2.5	3.1	3.0	2.5
VFR 130	V	HS - P(IEC)	0.50	0.50	0.50	0.40	0.40	0.70
VF 130	A - F - FC - FR - P	HS - P(IEC) 46 ≤ i ≤ 100	3.9	2.5	2.5	2.3	3.3	3.3
VF 130	A - F - FC - FR - P	P(IEC) 7 ≤ i ≤ 40	3.0	2.5	2.5	2.3	3.3	3.3
VFR 130	A - F - FC - FR - P	HS - P(IEC)	0.40	0.50	0.50	0.70	0.40	0.50
VF 150	N	HS - P(IEC)	3.0	3.5	3.5	4.3	3.8	4.0
VFR 150	N	HS - P(IEC)	1.0	0.80	0.80	0.60	0.40	1.0
VF 150	V	HS - P(IEC)	4.0	3.5	3.5	3.6	4.3	3.0
VFR 150	V	HS - P(IEC)	1.0	0.80	0.80	0.40	0.60	1.0
VF 150	A - F - FC - FR - P	HS - P(IEC) 46 ≤ i ≤ 100	4.5	3.5	3.5	3.0	3.9	3.9
VF 150	A - F - FC - FR - P	P(IEC) 7 ≤ i ≤ 40	4.3	3.5	3.5	3.0	3.9	3.9
VFR 150	A - F - FC - FR - P	HS - P(IEC)	0.60	0.80	0.80	1.0	0.40	1.0
VF 185	N	HS - P(IEC)	5.0	5.5	5.5	7.8	6.6	6.8
VFR 185	N	HS - P(IEC)	1.0	0.80	0.80	0.60	0.40	1.0
VF 185	V	HS - P(IEC)	6.8	5.5	5.5	6.4	7.8	5.4
VFR 185	V	HS - P(IEC)	1.0	0.80	0.80	0.40	0.60	1.0
VF 185	A - F - FC - FR - P	HS	9.6	5.5	5.5	5.0	6.7	6.7
VF 185	A - F - FC - FR - P	P(IEC)	7.8	5.5	5.5	5.0	6.7	6.7
VFR 185	A - F - FC - FR - P	HS - P(IEC)	0.60	0.80	0.80	1.0	0.40	1.0
VF 210	N	HS - P(IEC)	7.5	9.5	9.5	7.3	9.2	9.0
VFR 210	N	HS - P(IEC)	1.3	1.1	1.1	0.80	0.70	1.3
VF 210	V	HS - P(IEC)	8.9	9.5	9.5	7.3	11	8.0
VFR 210	V	HS - P(IEC)	1.3	1.1	1.1	0.60	0.90	1.3
VF 210	A - F - FC - FR - P	HS	15	9.5	9.5	7.5	9.4	8.9
VF 210	A - F - FC - FR - P	P(IEC)	11	9.5	9.5	7.5	9.4	8.9
VFR 210	A - F - FC - FR - P	HS - P(IEC)	0.80	1.1	1.1	1.3	0.70	1.3
VF 250	N	HS - P(IEC)	11	17	17	11	17	17
VFR 250	N	HS - P(IEC)	1.3	1.1	1.1	0.80	0.70	1.3
VF 250	V	HS - P(IEC)	17	17	17	11	23	11
VFR 250	V	HS - P(IEC)	1.3	1.1	1.1	0.60	0.90	1.3
VF 250	A - F - FC - FR - P	HS	28	17	17	11	18	17
VF 250	A - F - FC - FR - P	P(IEC)	23	17	17	11	18	17
VFR 250	A - F - FC - FR - P	HS - P(IEC)	0.80	1.1	1.1	1.3	0.70	1.3

Per i gruppi VFR la quantità si riferisce al lubrificante del solo pre-stadio di riduzione elicoidale.

For VFR units the lubricant charge refers only to the additional helical reduction.

Bei den VFR-Gruppen bezieht sich die Menge nur auf den Schmierstoff in der Varianzstufe des Stirnradgetriebes.

Pour les groupes VFR, il s'agit de la quantité de lubrifiant du seul pré-étage de réduction hélicoïdale.

15.2 Lubrificazione riduttori combinati VF/VF, VF/W e W/VF

I riduttori combinati serie VF/VF, VF/W e W/VF sono costituiti da due unità distinte lubrificate autonomamente.
Per quanto concerne la quantità di lubrificante, l'eventuale riempimento - se non già effettuato dalla fabbrica - dovrà essere fatto con le quantità indicate dal catalogo per ogni singolo riduttore e in funzione della relativa esecuzione e posizione di montaggio. Per quanto riguarda il riduttore secondario (lato macchina) la quantità di lubrificante deve essere determinata con riferimento alla configurazione veloce HS..

15.2 Lubrication for VF/VF, VF/W and W/VF combined gearboxes

Double worm gears type VF/VF, VF/W and W/VF consist of two separate units, independently lubricated.
With regards to oil quantity, unless units are already filled at the factory, this should be done by the customer prior to putting the drive into operation for each gear unit with reference to actual version and mounting position. As far as the secondary drive is concerned (the one bolting onto the driven machine) oil quantity shall be determined with reference to the HS type of input.

15.2 Schmierung der Getriebe der serie VF/VF, VF/W und W/VF

Doppelschneckengetriebe Typ VF/VF, VF/W und W/VF bestehen aus zwei separaten Einheiten mit eigenen Ölfüllungen.
Die Getriebe müssen vor Inbetriebnahme vom Kunden entsprechend der Ausführung und der Einbaulage mit Öl gefüllt werden, es sei denn es handelt sich um Getriebe die bereits ab Werk mit Öl geliefert werden. Bei Doppelschneckengetrieben muss das zweite Schneckengetriebe (Motoranschlußseite) mit der Ölfüllmenge des vergleichbaren Getriebes in Ausführung HS befüllt werden.

15.2 Lubrification reducteurs serie VF/VF, VF/W et W/VF

Les réducteurs combinés séries VF/VF, VF/W et W/VF sont constitués de deux unités dont la lubrification est distincte.
Pour ce qui concerne la quantité de lubrifiant, si le remplissage n'est pas fais par nos soins, il devra être réalisé par le client avec la quantité indiquée dans le catalogue, préalablement à la mise en fonctionnement, en tenant compte de la position de montage. Pour ce qui concerne le réducteur secondaire (coté machine), la quantité de lubrifiant devra être déterminée en référence avec la configuration rapide HS.

15.3 Tipo di lubrificante — *15.3 Type of lubricant* — 15.3 Ölsorte — *15.3 Type de lubrifiant*

			Posizione di montaggio / *mounting position* Einbaulagen / *position de montage*	
			B3 - B6 - B7 - B8 - V5	**V6**
	Precoppia elicoidale *Helical reduction* Plantenvorgelege *Précouple hélicoidal*	**WR 63…WR 86**	**OMALA S4 WE 320**	**GADUS S5 V142W 00**
		VFR 44…VFR 250 WR 110	**OMALA S4 WE 320**	
 	Riduttori a vite senza fine *Worm gear unit* Schneckengetriebe *Rééducteurs à vis sans fin*	**W 63…W 110 VF 44…VF 250**	**OMALA S4 WE 320**	
 	Riduttore con limitatore di coppia *Worm gear unit c/w torque limiter* Getriebe mit Drehhzahlbegrenzer *Réducteur avec limiteur de couple*	**W 63…W 110 VF 44…VF 49**	**OMALA S4 WE 460**	

Si raccomanda, qualora il lubrificante sia scelto al di fuori del tipo SHELL consigliato, che questo sia di composizione equivalente in merito alla natura sintetica e alla viscosità, inoltre sia dotato degli opportuni additivi con funzione antischiuma.

When using a lubricant other than the recommended SHELL lubricant, be sure it is a synthetic lubricant with equivalent viscosity and composition and added with adequate anti-foaming agents.

Bonfiglioli weist noch darauf hin, dass im Fall einer Wahl eines Schmiermittels, das nicht vom empfohlenen Typ SHELL ist, dieses in seiner Zusammensetzung im Hinblick auf die synthetische Natur und die Viskosität gleichwertig und darüber hinaus mit den entsprechenden schaumhemmenden Zusatzstoffen ausgestattet sein muss.

Enfin, si le lubrifiant utilisé n'est pas de type SHELL comme conseillé, Bonfiglioli recommande qu'il soit de composition équivalente du point de vue de la nature synthétique et de la viscosité, de plus, il doit comporter des additifs anti-mousse.

16 - CARICHI RADIALI

16.1 Forza risultante sull'albero

Organi di trasmissione calettati sugli alberi di ingresso e/o di uscita del riduttore generano forze la cui risultante agisce in senso radiale sull'albero stesso. L'entità di questi carichi deve essere compatibile con la capacità di sopportazione del siste-

16 - OVERHUNG LOADS

16.1 Calculating the resulting overhung load

External transmissions keyed onto input and/or output shaft generate loads that act radially onto same shaft.
Resulting shaft loading must be compatible with both the bearing and the shaft capacity.
Namely shaft loading (R_{c1} for

16 - RADIALKRÄFTE

16.1 Berechnung der Überhängenden Last

Die mit den Antriebs- und/oder Abtriebswellen des Getriebes verbundenen Antriebsorgane bilden Kräfte, die in radiale Richtung auf die Welle selbst wirken.
Das Ausmaß dieser Kräfte muß mit der Festigkeit des Systems

16 - CHARGES RADIALES

16.1 Calcul de la force résultant

Les organes de transmission calés sur les arbres d'entrée et/ou de sortie du réducteur génèrent des forces dont la résultante agit sur l'arbre dans le sens radial.
L'entité de ces charges doit être compatible avec la capacité

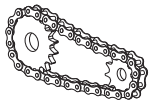
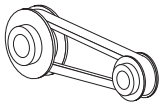
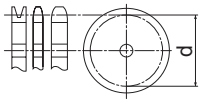
ma albero-cuscinetti del riduttore, in particolare il valore assoluto del carico applicato (R_{c1} per albero di ingresso, R_{c2} per albero di uscita) deve essere inferiore al valore nominale (R_{n1} per albero di ingresso, R_{n2} per albero di uscita) riportato nelle tabelle dati tecnici.
Il procedimento sotto descritto si applica indifferentemente all'albero veloce o all'albero lento avendo l'avvertenza di utilizzare le costanti relative all'albero interessato dal calcolo.
Il carico generato da una trasmissione esterna può essere calcolato, con buona approssimazione, tramite la formula seguente:

input shaft, R_{c2} for output shaft), must be equal or lower than admissible overhung load capacity for shaft under study (R_{n1} for input shaft, R_{n2} for output shaft). OHL capability listed in the rating chart section.
In the formulas given below, index (1) applies to parameters relating to input shaft, whereas index (2) refers to output shaft.
The load generated by an external transmission can be calculated with close approximation by the following equation:

aus Getriebewelle/-lager kompatibel sein, insbesondere muß der absolute Wert der angetragenen Belastung (R_{c1} für Antriebswelle und R_{c2} für Abtriebswelle) unter dem in den Tabellen der Technischen Daten angegebenen Nennwert (R_{n1} für Antriebswelle und R_{n2} für Abtriebswelle) liegen.
In den nachstehenden Formeln bezieht sich die Angabe (1) auf die Maße der Antriebswelle, die Angabe (2) auf die Abtriebswelle.
Die von einem externen Antrieb erzeugte Kraft kann, recht genau, anhand der nachstehenden Formel berechnet werden:

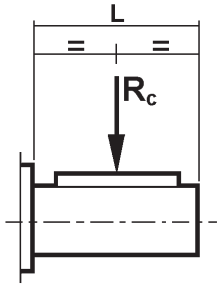
d'endurance du système arbre-roulements du réducteur.
Plus particulièrement, la valeur absolue de la charge appliquée (R_{c1} pour l'arbre d'entrée, R_{c2} pour l'arbre de sortie) doit être inférieure à la valeur nominale (R_{n1} pour l'arbre d'entrée, R_{n2} pour l'arbre de sortie) indiquée dans les tableaux des données techniques.
ans les formules qui suivent, l'indice (1) se réfère à des tailles relatives à l'arbre rapide, l'indice (2) concerne l'arbre lent.
La charge générée par une transmission extérieure peut être calculée, avec une bonne approximation, au moyen de la formule suivante:

$$R_c = \frac{2000 \times M \times K_r}{d}$$

K_r = 1	
K_r = 1.25	
K_r = 1.5 - 2.0	
M [Nm]	
d [mm]	

16.2 Verifica sopportazione radiale

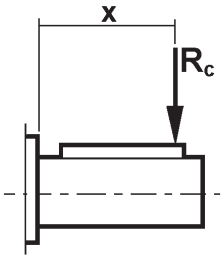
16.2 Overhung loading verification



$R_c \leq R_n$

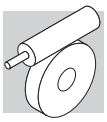
16.2 Überprüfung der Radiallast

16.2 Vérification de la charge axiale



$$R_x = R_n \times \frac{a}{b + x}$$

$R_c \leq R_x$



16.3 Costanti del riduttore ***16.3 Load location factor*** **16.3 Getriebekonstanten** ***16.3 Constantes du réducteur***

	Albero lento / *Output shaft* / Abtriebswelle / *Arbre lent*		R_{n2} max [N]
	a	b	
VF 27	56	44	600
VF 30	60	45	1700
VF 44 - VFR 44 - VF/VF 30/44	71	51	2500
VF 49 - VFR 49 - VF/VF 30/49	99	69	3450
W 63 - WR 63 - VF/W 30/63	132	102	5000
W 75 - WR 75 - VF/W 44/75	139	109	6200
W 86 - WR 86 - VF/W 44/86	149	119	7000
W 110 - WR 110 - VF/W 49/110	173	136	8000
VF 130 - VFR 130 - W/VF 63/130	182	142	13800
VF 150 - VFR 150 - W/VF 86/150	198	155	16000
VF 185 - VFR 185 - W/VF 86/185	220	170	19500
VF 210 - VFR 210 - W/VF 130/210	268	203	34500
VF 250 - VFR 250 - W/VF 130/250	334	252	52000

17 - CARICHI ASSIALI, A_{n1}, A_{n2}

I valori di carico assiale ammissibile sugli alberi veloce [A_{n1}] e lento [A_{n2}] si possono ricavare con riferimento al corrispondente valore di carico radiale [R_{n1}] e [R_{n2}] tramite le espressioni che seguono:

17 - THRUST LOADS, A_{n1}, A_{n2}

Permissible thrust loads on input [A_{n1}] and output [A_{n2}] shafts are obtained from the radial loading for the shaft under consideration [R_{n1}] and [R_{n2}] through the following equation:

17 - AXIALKRÄFTE, A_{n1}, A_{n2}

Die Werte der zulässigen, auf die Antriebswelle [A_{n1}] und auf die Abtriebswelle [A_{n2}] einwirkenden Axialkräfte können unter Bezugnahme auf den jeweiligen Wert der Radialkraft [R_{n1}] und [R_{n2}] anhand der nachstehenden Angaben berechnet werden:

17 - CHARGES AXIALES, A_{n1}, A_{n2}

Les valeurs de charge axiale admissible sur les arbres rapides [A_{n1}] et lent [A_{n2}] peuvent être calculées, en se référant à la valeur de charge radiale correspondante [R_{n1}] et [R_{n2}] au moyen des formules suivantes :

$$A_{n1} = R_{n1} \times 0,2$$
$$A_{n2} = R_{n2} \times 0,2 \quad (14)$$

I valori di carico assiale ammissibile così calcolati si riferiscono al caso di forze assiali agenti contemporaneamente ai carichi radiali nominali.
Nel solo caso in cui il valore del carico radiale agente sull'albero del riduttore sia nullo, si può considerare il carico assiale ammissibile [A_n] pari al 50% del valore di carico radiale ammissibile [R_n] sullo stesso albero.
In presenza di carichi assiali eccedenti il valore ammissibile, o di forze assiali fortemente prevalenti sui carichi radiali, è consigliabile contattare il Servizio Tecnico di Bonfiglioli Riduttori per una verifica puntuale.

The thrust loads calculated through these formulas apply to thrust forces occurring at the same time as rated radial loads. In the only case that no overhung load acts on the shaft the value of the admissible thrust load [A_n] amounts to 50% of rated OHL [R_n] on same shaft.
Where thrust loads exceed permissible value or largely prevail over radial loads, contact Bonfiglioli Riduttori for an in-depth analysis of the application.

Die so errechneten Werte der zulässigen Axialkräfte beziehen sich auf den Fall, in dem die Axialkräfte gleichzeitig mit den Nennradialkräften einwirken.
Nur im Fall, es keine Radialbelastung auf die Getriebewelle gibt, ist der Wert der zulässigen Axialbelastung [A_n] gleich zu 50% der zulässigen Radialbelastung [R_n] auf die gleiche Welle. In Anwesenheit von übermäßigen Axialkräften, oder stark auf die Radialkräfte einwirkende Kräfte, wird im Hinblick auf eine genaue Kontrolle empfohlen, sich mit dem Technischen Kundendienst der Bonfiglioli Riduttori in Verbindung zu setzen.

Les valeurs de charge axiale admissible ainsi calculées se réfèrent au cas de forces axiales agissant en même temps que les charges radiales nominales. Dans le seul cas la valeure de la charge radiale agissant sur l'arbre soit nul, l'on peut considerer la charge axiale admissible [A_n] egale à 50% de la valeure de la charge radiale admissible [R_n] sur le même arbre. En présence de charges axiales excédant la valeur admissible, ou de forces axiales fortement supérieures aux charges radiales, il est conseillé de contacter le Service Technique Bonfiglioli Riduttori pour une vérification.

Carichi assiali massimi ammissibili nella forma costruttiva FR

Per soddisfare le applicazioni che richiedono dei carichi assiali molto elevati, è disponibile la forma costruttiva FR prevista nelle grandezze VF 130, VF 150 e VF 185. Questa forma costruttiva, le cui dimensioni esterne sono identiche a quelle della forma FC, può sopportare i carichi assiali (notevolmente superiori a quelli ammessi dalle forme standard) riportati nella tabella seguente riferiti al rapporto di trasmissione [i] ed al senso di rotazione +/- dell'albero lento.

Maximum axial loading for FR version

The FR version is designed to meet the requirements of applications entailing very high axial loads. It is available for units size 130, 150 and 185.

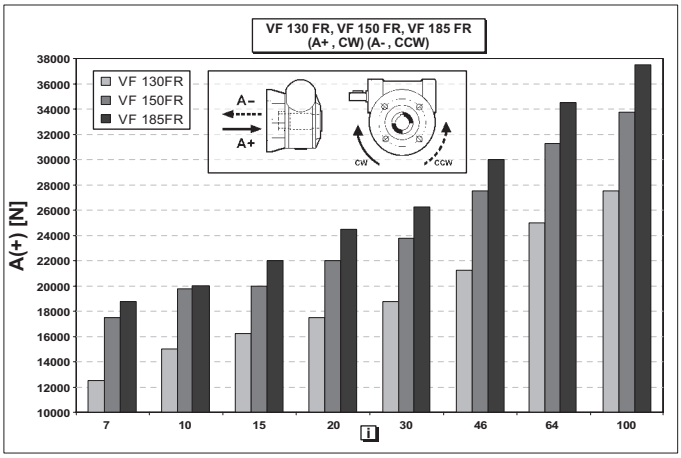
This version, within the same external dimensions as the FC version, is capable of bearing axial loads (well above those of the standard versions) indicated in the table below referred to the output shaft, gear ratio [i] and +/- direction of rotation.

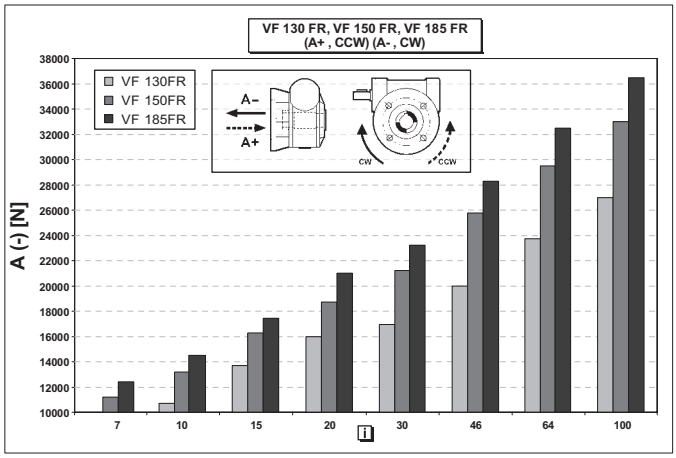
Maximal zulässige Radialkräfte bei der Bauform FR

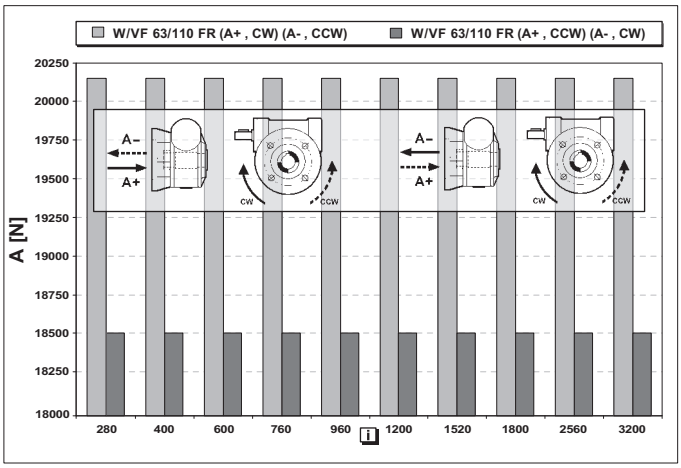
Um den Verwendungen entsprechen zu können, die sehr hohe Axialkräfte erfordern, wurde die Bauform FR in den Größen VF 130, VF 150 und VF 185 entwickelt. Diese Bauform, deren äußeren Maße denen der Bauform FC identisch sind, kann die in der nachstehenden Tabelle aufgeführten (weit über den von den Standardformen zugelassenen liegenden) und sich auf das Übersetzungsverhältnis [i] und die Drehrichtung +/- der Abtriebswelle bezogenen Axialkräfte aufnehmen.

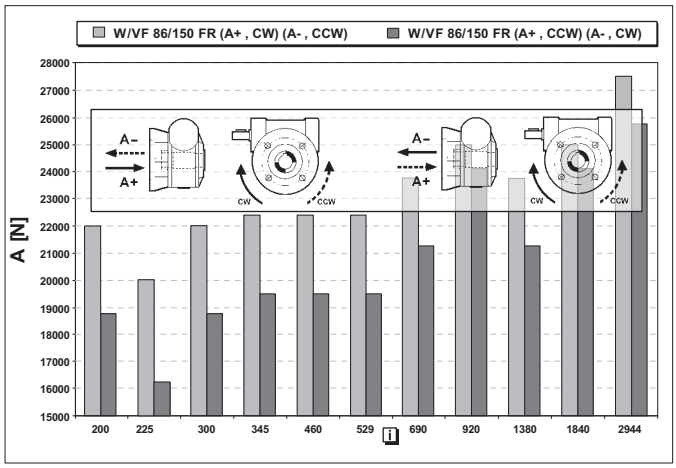
Charges axiales maximales admises dans la version FR

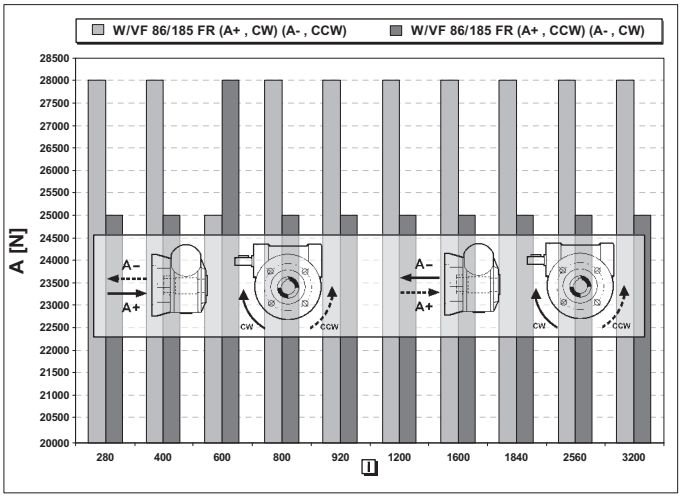
Pour les applications nécessitant des charges axiales très élevées, nous fournissons la version FR dans les tailles 130, 150, 185. Cette version, dont les dimensions externes sont identiques à celles de la version FC, peut supporter les charges axiales (considérablement supérieures aux charges admises par les versions standard) indiquées dans le tableau suivant se référant au rapport de transmission [i] et au sens de rotation +/- de l'arbre de sortie.



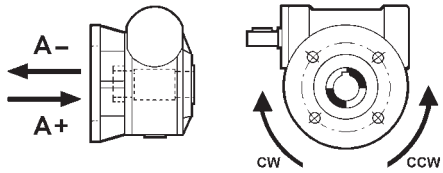








Legenda / *Key* / Zeichenerklärung / *Légende*:



A+ = Carico assiale in compressione / *Compressive load*
Axiallast auf Druck / *Charge axiale en compression*

A- = Carico assiale in trazione / *Pull load*
Axiallast auf Zug / *Charge axiale en traction*

CW = Rotazione oraria / *Clockwise rotation*
Rechtsdrehung / *Rotation horaire*

CCW = Rotazione antioraria / *Counterclockwise rotation*
Linksdrehung / *Rotation anti-horaire*

Bonfiglioli Riduttori

18 - INFORMAZIONI GENERALI

18.1 Rendimento

Il rendimento [η] dipende dai seguenti parametri:

- angolo d'elica dell'ingranaggio
- velocità di comando
- rodaggio dell'ingranaggio

A tale proposito è utile ricordare che il valore ottimale si manifesta dopo alcune ore di rodaggio e viene raggiunto successivamente nei riduttori funzionanti a regime come illustrato nella tabella sotto riportata, per cui in determinate applicazioni dove è previsto un servizio intermittente (sollevamenti, azionamenti, ecc.) è necessario incrementare adeguatamente la potenza del motore al fine di compensare il basso rendimento che si ha nel riduttore all'avviamento.
I valori di coppia nominale $\mathbf{M_{n2}}$ riportati a catalogo sono riferiti al funzionamento a regime, dopo rodaggio.
La tabella riporta, a titolo indicativo, il tempo necessario per raggiungere il massimo valore di rendimento dinamico.

18 - GENERAL INFORMATION

18.1 Efficiency

Efficiency [η] *depends on the following parameters:*

- *helix angle of gearing*
- *driving speed*
- *running-in of gearing*

In this connection, remember that the optimum value is reached after several hours of running-in and is reached later on in steady-state operating gearboxes as shown in the table below.
Therefore, in applications calling for intermittent duty (e.g. hoisting, drives, etc.), motor power must be adequately increased to compensate for the gearbox's low efficiency at start-up.
Torque values $\boldsymbol{M_{n2}}$ *indicated in the catalogue are calculated by considering the steady-state performance of the gearboxes.*
The diagram shows indicatively the time required to reach the maximum value of dynamic efficiency.

18 - ALLGEMEINE INFORMATIONEN

18.1 Wirkungsgrad

Der Wirkungsgrad [η] hängt von den folgenden Parametern ab:

- Eingriffswinkel
- Schmierung
- Einlaufen des Getriebes

Dabei ist auch zu berücksichtigen, daß der beste Wert erst nach einer Einlaufphase von einigen Stunden erreicht wird, aus Abbildung unter geht hervor, vann bei Getrieben, die mit Nenn Drehzahlen arbeiten der beste Wirkungsgrad erreicht wird. Für Anwendungsfälle mit intermittierendem Betrieb (Heben, Antrieb, sw.) ist es notwendig, die Motorleistung angemessen zu erhöhen, um den ungünstigen Wirkungsgrad des Getriebes während des Anfahrens zu überwinden.
Die Drehmomentwerte $\mathbf{M_{n2}}$, die im Katalog angegeben sind, wurden im Hinblick auf den Wirkungsgrad von Getrieben berechnet, die bei einer Drehzahl von η_d laufen.
Die Abbildung zeigt die Zeit, die ungefähr notwendig ist, um den maximalen dynamischen Wirkungsgrad zu erreichen.

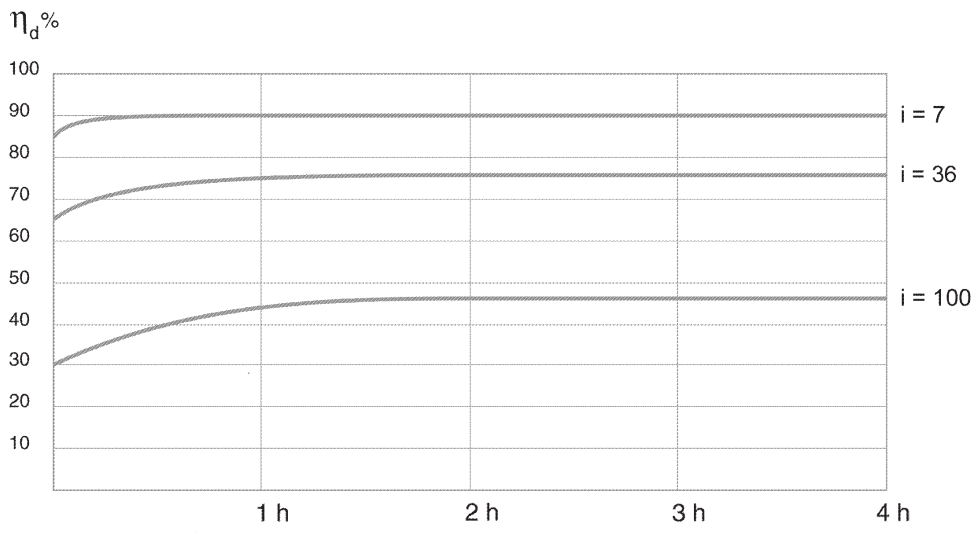
18 - INFORMATIONS GENERALES

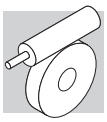
18.1 Rendement

Le rendement [η] *dépend des paramètres suivants :*

- *angle d'hélice de l'engrenage*
- *vitesse d'entrée*
- *rodage de l'engrenage*

Rappelons à ce sujet que la valeur optimale se manifeste au bout de quelques heures de rodage et est atteinte ensuite sur les réducteurs fonctionnant à plein régime de la façon indiquée dans le tableau suivante, si bien que pour les applications prévoyant un service intermittent (levage, actionnement etc.), il faut augmenter de façon appropriée la puissance du moteur, afin de compenser le faible rendement du réducteur au démarrage.
Les valeurs de couple $\boldsymbol{M_{n2}}$ *indiquées dans le catalogue sont calculées en tenant compte du rendement des réducteurs à régime* η_d.
Le tableau fournit, à titre indicatif, le temps nécessaire pour atteindre la valeur maximum de rendement dynamique.





18.2 Irreversibilità

Alcune applicazioni possono comportare occasionalmente la trasmissione del moto retrogrado tramite l'albero lento, mentre altre impongono che il carico sia trattenuto in posizione dal motoriduttore, anche in assenza di alimentazione elettrica.
Alcuni gruppi a vite senza fine offrono la caratteristica di essere irreversibili e il parametro che ne influenza maggiormente questa prestazione è il rendimento.
In particolare il rendimento statico η_s è responsabile della irreversibilità statica (passaggio attraverso una posizione di sosta), mentre il rendimento dinamico η_d è responsabile della eventuale irreversibilità dinamica (moto continuato nella stessa direzione).
L'irreversibilità può esprimersi in misura diversa con i rapporti più lunghi (i=64 e superiori) ad offrire una irreversibilità sempre maggiore.

18.2 Self-locking units

Some applications may require occasionally the gearbox to be back-driven by the load through the output shaft, some others instead require the gearbox to lock and hold the load when electric power switches off.
The factor affecting reversibility of worm gears the most is the efficiency with more precisely static efficiency η_s affecting static reversibility and dynamic efficiency η_d affecting dynamic reversibility.
Generally only gear ratios i=64 and higher offer locking properties with the grater ratios being totally non reversible.

18.2 Selbsthemmung

Einige Applikationsarten können gelegentlich dazu führen, dass die Antriebübertragung über die Abtriebswelle erfolgt, während andere es erforderlich machen, dass die Last, auch ohne elektrische Versorgung, vom Getriebemotor in Position gehalten wird. Einige Schneckeneinheiten bieten die Eigenschaft der Nichtumkehrbarkeit und der Kennwert, der diese Eigenschaft am meisten beeinflusst, stellt sich in ihrem Wirkungsgrad dar. Insbesondere ist der statische Wirkungsgrad η_s für die statische Nichtumkehrbarkeit (Passage über eine Aussetzposition) verantwortlich, während der dynamische Wirkungsgrad η_d für die eventuelle dynamische Nichtumkehrbarkeit (kontinuierlicher Antrieb in die gleiche Richtung) zuständig ist. Die Nichtumkehrbarkeit kann sich bei längeren Übersetzungsverhältnissen (i=64 und höher) in anderen Maßen ausdrücken und so eine immer höhere Nichtumkehrbarkeit bieten.

18.2 Irréversibilité

Certaines applications peuvent occasionnellement comporter la transmission du mouvement au moyen de l'arbre lent tandis que d'autres impliquent que la charge soit retenue en position par le motoréducteur, même en l'absence d'alimentation électrique.
Certains groupes à vis sans fin présentent la caractéristique d'être irréversibles et le paramètre qui influence le plus cette performance est leur rendement. Plus particulièrement, le rendement statique η_s est responsable de l'irréversibilité statique (passage à travers une position de repos), tandis que le rendement dynamique η_d est responsable de l'éventuelle irréversibilité dynamique (mouvement continu dans la même direction). L'irréversibilité peut s'exprimer différemment avec des rapports plus longs (i=64 et plus) afin d'offrir une irréversibilité supérieure.

18.3 Irreversibilità statica

Con questa condizione non si può avere la trasmissione del moto con comando dall'asse lento senza escludere però dei ritorni lenti nel caso in cui il gruppo sia sottoposto a vibrazioni. La condizione teorica perchè si verifichi la irreversibilità statica è la seguente:

18.3 Static non-reversing

In this condition the gear units cannot be driven back from the output shaft, however slow running- back may still occur if the worm gears are subject to vibrations.
The theoretical condition for the static non-reversing to occur is:

18.3 Statische Selbsthemmung

Unter dieser Bedingung ist bei Belastung der Abtriebswelle im Stillstand kein Durchlaufen möglich, jedoch sind kleine Bewegungen im Falle von Vibrationen nicht auszuschließen. Die theoretische Voraussetzung für eine statische Selbsthemmung ist:

18.3 Irréversibilité statique

Cette condition n'exclut pas le retour lent lorsque le groupe est soumis à des vibrations.
La condition théorique pour que se vérifie l'irréversibilité statique est la suivante:

$$\eta_s < 0.4 - 0.5 \qquad (15)$$

dove η_s rappresenta il rendimento statico (valore riportato nelle tabelle dei dati tecnici dei riduttori).
Ovviamente, per soddisfare la condizione inversa, cioè la reversibilità statica, si dovrà verificare che:

The η_s value for each worm gear can be found in the respective rating chart.
The opposite situation, i.e. static reversibility applies, theoretically when:

wobei der statische Wirkungsgrad η_s ist (diesen Wert findet man in den Tabellen der technischen Daten der Getriebe). Das genaue Gegenteil, ein Weiterdrehen der Antriebswelle aus dem Stillstand, ergibt sich bei:

où η_s est le rendement statique (valeur indiqueée dans les tableaux des données techniques des réducteurs). De même pour satisfaire la condition inverse, c'est à dire une réversibilité statique, il faut:

$$\eta_s > 0.5 \qquad (16)$$

18.4 Irreversibilità dinamica

La condizione è influenzata direttamente dalla velocità di rotazione, dal rendimento e dalle vibrazioni continue del carico. È caratterizzata da un arresto quasi istantaneo della rotazione quando sull'asse della vite non

18.4 Dynamic non-reversing

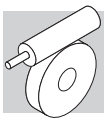
The load-holding capability is dependent on drive speed, dynamic efficiency and, if any, vibrations. The result of non-reversibility is the locking of the output shaft is no longer driven. Partial or total non reversibility

18.4 Dynamische Selbsthemmung

Diese Eigenschaft ist äußerst schwierig zu erreichen, da sie direkt von der Drehzahl, dem Wirkungsgrad und andauernden Vibrationen der Last abhängig ist.
Sie wird durch einen praktisch sofortigen Stillstand charakteri-

18.4 Irréversibilité dynamique

C'est la condition la plus difficile à réaliser car elle est influencée directement par la vitesse de rotation, le rendement et les vibrations dûes à la charge. Elle est caractérisée par un arrêt instantané du mouvement de



VF 27

13 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= **2800** min^{-1}						n_1 = **1400** min^{-1}						
VF 27	**VF 27_7**	7	67	400	7	0.34	—	330	86	200	9	0.23	35	410	83	183
	VF 27_10	10	62	280	7	0.24	—	400	84	140	9	0.16	30	500	80	
	VF 27_15	15	54	187	7	0.17	—	480	79	93	9	0.12	—	600	75	
	VF 27_20	20	49	140	7	0.14	—	540	76	70	9	0.09	—	600	71	
	VF 27_30	30	38	93	7	0.10	—	600	69	47	9	0.07	—	600	62	
	VF 27_40	40	33	70	7	0.08	—	600	64	35	9	0.06	—	600	57	
	VF 27_60	60	26	47	7	0.06	—	600	56	23.3	9	0.04	—	600	49	
	VF 27_70	70	24	40	7	0.06	—	600	53	20.0	9	0.04	—	600	45	
				n_1= **900** min^{-1}						n_1 = **500** min^{-1}						
	VF 27_7	7	67	129	10	0.17	90	480	81	71	11	0.11	90	600	79	183
	VF 27_10	10	62	90	11	0.13	20	570	78	50	12	0.08	90	600	76	
	VF 27_15	15	54	60	11	0.09	—	600	72	33	12	0.06	90	600	69	
	VF 27_20	20	49	45	11	0.08	—	600	68	25.0	12	0.05	90	600	65	
	VF 27_30	30	38	30.0	11	0.06	—	600	59	16.7	13	0.04	—	600	55	
	VF 27_40	40	33	22.5	11	0.05	—	600	54	12.5	13	0.04	—	600	50	
	VF 27_60	60	26	15.0	11	0.04	—	600	45	8.3	12	0.02	—	600	41	
	VF 27_70	70	24	12.9	10	0.03	—	600	42	7.1	11	0.02	—	600	38	

VF 30

24 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= **2800** min^{-1}						n_1 = **1400** min^{-1}						
VF 30	**VF 30_7**	7	69	400	12	0.58	120	510	87	200	16	0.41	140	630	84	184
	VF 30_10	10	64	280	12	0.41	70	620	85	140	16	0.30	80	770	81	
	VF 30_15	15	56	187	14	0.34	—	720	81	93	18	0.24	—	910	76	
	VF 30_20	20	51	140	14	0.26	—	820	78	70	18	0.19	—	1030	73	
	VF 30_30	30	41	93	15	0.21	—	960	71	47	20	0.15	—	1200	65	
	VF 30_40	40	36	70	14	0.16	—	1090	66	35	19	0.12	—	1360	60	
	VF 30_60	60	29	47	14	0.12	—	1270	59	23.3	19	0.09	—	1590	51	
	VF 30_70	70	26	40	11	0.08	—	1380	55	20.0	15	0.07	—	1600	48	
				n_1= **900** min^{-1}						n_1 = **500** min^{-1}						
	VF 30_7	7	69	129	18	0.30	150	730	82	71	20	0.19	150	920	81	184
	VF 30_10	10	64	90	18	0.22	150	900	79	50	20	0.14	150	1120	77	
	VF 30_15	15	56	60	20	0.17	—	1060	74	33	22	0.11	150	1320	71	
	VF 30_20	20	51	45	20	0.14	—	1200	70	25.0	22	0.09	150	1490	67	
	VF 30_30	30	41	30	22	0.12	—	1400	61	16.7	24	0.07	—	1700	58	
	VF 30_40	40	36	23	20	0.09	—	1590	56	12.5	22	0.06	—	1700	53	
	VF 30_60	60	29	15	20	0.07	—	1650	48	8.3	22	0.05	—	1700	44	
	VF 30_70	70	26	13	17	0.05	—	1700	45	7.0	19	0.04	—	1700	41	

(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)

VF 44 - VF/VF 30/44

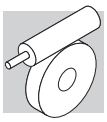
55 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VF 44	VF 44_7	7	71	400	22	1.1	220	950	88	200	29	0.71	220	1180	86	184
	VF 44_10	10	66	280	22	0.74	220	1150	87	140	29	0.51	220	1430	84	
	VF 44_14	14	60	200	22	0.55	220	1340	84	100	29	0.37	220	1680	81	
	VF 44_20	20	55	140	29	0.52	220	1490	81	70	39	0.37	220	1860	77	
	VF 44_28	28	45	100	29	0.40	220	1710	76	50	39	0.29	220	2140	71	
	VF 44_35	35	42	80	29	0.33	220	1870	73	40	39	0.25	220	2300	68	
	VF 44_46	46	37	61	29	0.27	220	2080	69	30.0	39	0.19	220	2300	63	
	VF 44_60	60	32	47	29	0.22	220	2290	65	23.3	39	0.16	220	2300	58	
	VF 44_70	70	30	40	22	0.15	220	2300	62	20.0	29	0.11	220	2300	55	
	VF 44_100	100	24	28	21	0.11	220	2300	55	14.0	28	0.09	220	2300	47	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	VF 44_7	7	71	129	39	0.63	220	1300	85	71	45	0.41	220	1610	83	184
	VF 44_10	10	66	90	39	0.45	220	1610	82	50	45	0.29	220	1980	80	
	VF 44_14	14	60	64	39	0.34	220	1890	78	36	50	0.25	220	2280	76	
	VF 44_20	20	55	45	45	0.29	220	2160	74	25.0	50	0.18	220	2500	72	
	VF 44_28	28	45	32	49	0.24	220	2300	67	17.9	55	0.16	220	2500	64	
	VF 44_35	35	42	25.7	49	0.20	220	2300	64	14.3	55	0.14	220	2500	60	
	VF 44_46	46	37	19.6	49	0.17	220	2300	59	10.9	50	0.10	220	2500	55	
	VF 44_60	60	32	15.0	45	0.13	200	2300	54	8.3	50	0.09	220	2500	50	
	VF 44_70	70	30	12.9	39	0.10	220	2300	51	7.1	45	0.07	220	2500	47	
	VF 44_100	100	24	9.0	30	0.06	220	2300	43	5.0	32	0.04	220	2500	39	

70 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 1400 min^{-1}						n_1 = 900 min^{-1}						
VF/VF 30/44	VF/VF 30/44 _245	245	29	5.7	60	0.09	140	2500	40	3.7	70	0.07	150	2500	38	186
	VF/VF 30/44 _350	350	27	4.0	60	0.07	80	2500	36	2.6	70	0.05	150	2500	38	
	VF/VF 30/44 _420	420	25	3.3	60	0.06	—	2500	35	2.1	70	0.04	—	2500	39	
	VF/VF 30/44 _560	560	23	2.5	60	0.05	—	2500	31	1.6	70	0.04	—	2500	29	
	VF/VF 30/44 _700	700	21	2.0	60	0.04	—	2500	31	1.3	70	0.03	—	2500	31	
	VF/VF 30/44 _840	840	18	1.7	60	0.04	—	2500	26	1.1	70	0.03	—	2500	26	
	VF/VF 30/44 _1120	1120	16	1.3	60	0.03	—	2500	26	0.80	70	0.02	—	2500	29	
	VF/VF 30/44 _1680	1680	13	0.83	60	0.02	—	2500	26	0.54	70	0.02	—	2500	20	
	VF/VF 30/44 _2100	2100	12	0.67	60	0.02	—	2500	21	0.43	70	0.02	—	2500	16	

(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)



VF 49 - VFR 49

88 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VF 49	VF 49_7	7	70	400	41	2.0	400	950	88	200	54	1.3	400	1170	86	184
	VF 49_10	10	65	280	44	1.5	400	1140	86	140	59	1.0	400	1410	84	
	VF 49_14	14	59	200	49	1.2	400	1310	84	100	65	0.90	400	1630	81	
	VF 49_18	18	55	156	44	0.87	400	1520	82	78	59	0.60	400	1890	78	
	VF 49_24	24	50	117	47	0.73	400	1670	79	58	63	0.50	400	2110	75	
	VF 49_28	28	43	100	56	0.78	400	1740	75	50	74	0.55	400	2170	71	
	VF 49_36	36	39	78	52	0.59	400	1970	72	39	69	0.42	400	2460	67	
	VF 49_45	45	35	62	49	0.46	400	2180	69	31	65	0.33	400	2725	63	
	VF 49_60	60	30	47	44	0.34	400	2480	64	23.3	59	0.25	400	3100	58	
	VF 49_70	70	28	40	41	0.28	400	2650	61	20.0	55	0.21	400	3150	54	
	VF 49_80	80	25	35	41	0.25	400	2780	59	17.5	54	0.19	400	3150	52	
	VF 49_100	100	22	28.0	37	0.20	400	3050	54	14.0	49	0.13	400	3150	47	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	VF 49_7	7	70	129	61	0.97	400	1370	85	71	74	0.67	400	1670	83	184
	VF 49_10	10	65	90	64	0.75	400	1670	82	50	74	0.49	400	2060	80	
	VF 49_14	14	59	64	71	0.61	400	1920	78	36	78	0.39	400	2400	75	
	VF 49_18	18	55	50	68	0.47	400	2190	75	27.8	74	0.30	400	2730	72	
	VF 49_24	24	50	38	68	0.36	400	2480	71	20.8	74	0.24	400	3090	68	
	VF 49_28	28	43	32	82	0.41	400	2540	67	17.9	88	0.26	400	3180	63	
	VF 49_36	36	39	25.0	75	0.31	400	2880	63	13.9	80	0.20	400	3450	59	
	VF 49_45	45	35	20.0	71	0.25	400	3190	59	11.1	78	0.17	400	3450	55	
	VF 49_60	60	30	15.0	64	0.19	400	3300	53	8.3	69	0.12	400	3450	49	
	VF 49_70	70	28	12.9	60	0.16	400	3300	50	7.1	69	0.11	400	3450	46	
	VF 49_80	80	25	11.3	58	0.14	400	3300	47	6.3	59	0.09	400	3450	43	
	VF 49_100	100	22	9.0	52	0.11	400	3300	42	5.0	59	0.08	400	3450	38	

95 Nm

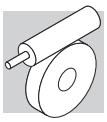
		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VFR 49	VFR 49 _42	42	58	67	71	0.65	230	1920	76	33	78	0.37	230	2500	74	185
	VFR 49 _54	54	54	52	68	0.50	230	2180	74	25.9	74	0.28	230	2830	71	
	VFR 49 _72	72	49	39	68	0.40	230	2470	70	19.4	74	0.22	230	3190	67	
	VFR 49 _84	84	42	33	82	0.44	230	2520	66	16.6	88	0.25	230	3290	62	
	VFR 49 _108	108	38	25.9	75	0.33	230	2860	62	12.9	80	0.19	230	3450	58	
	VFR 49 _135	135	34	20.7	71	0.27	230	3160	58	10.3	88	0.18	230	3450	54	
	VFR 49 _180	180	29	15.6	64	0.20	230	3300	52	7.7	69	0.12	230	3450	48	
	VFR 49 _210	210	27	13.3	60	0.17	230	3300	49	6.6	69	0.11	230	3450	45	
	VFR 49 _240	240	25	11.7	58	0.15	230	3300	46	5.8	59	0.09	230	3450	42	
	VFR 49 _300	300	22	9.3	52	0.12	230	3300	41	4.7	59	0.08	230	3450	37	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	VFR 49 _42	42	58	21.4	82	0.26	230	2960	72	11.9	90	0.16	230	3450	70	185
	VFR 49 _54	54	54	16.7	79	0.20	230	3330	69	9.3	83	0.12	230	3450	67	
	VFR 49 _72	72	49	12.5	79	0.16	230	3450	64	6.9	83	0.10	230	3450	62	
	VFR 49 _84	84	42	10.7	91	0.17	230	3450	59	6.0	95	0.10	230	3450	57	
	VFR 49 _108	108	38	8.3	84	0.13	230	3450	55	4.6	90	0.08	230	3450	52	
	VFR 49 _135	135	34	6.7	82	0.11	230	3450	50	3.7	90	0.07	230	3450	48	
	VFR 49 _180	180	29	5.0	75	0.09	230	3450	45	2.8	78	0.05	230	3450	42	
	VFR 49 _210	210	27	4.3	75	0.08	230	3450	41	2.4	78	0.05	230	3450	39	
	VFR 49 _240	240	25	3.8	64	0.06	230	3450	39	2.1	68	0.04	230	3450	36	
	VFR 49 _300	300	22	3.0	63	0.06	230	3450	34	1.7	65	0.04	230	3450	32	

VF/VF 30/49

100 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= **1400** min^{-1}						n_1 = **900** min^{-1}						
VF/VF 30/49	**VF/VF 30/49_240**	240	32	5.8	95	0.13	80	3450	45	3.8	100	0.09	150	3450	44	186
	VF/VF 30/49_315	315	24	4.4	95	0.11	140	3450	40	2.9	100	0.07	150	3450	43	
	VF/VF 30/49_420	420	24	3.3	95	0.08	—	3450	41	2.1	100	0.06	—	3450	37	
	VF/VF 30/49_540	540	22	2.6	95	0.07	—	3450	37	1.7	100	0.05	—	3450	35	
	VF/VF 30/49_720	720	20	1.9	95	0.05	—	3450	39	1.3	100	0.04	—	3450	33	
	VF/VF 30/49_900	900	18	1.6	95	0.05	—	3450	31	1.0	100	0.04	—	3450	26	
	VF/VF 30/49_1120	1120	15	1.3	95	0.04	—	3450	31	0.80	100	0.03	—	3450	28	
	VF/VF 30/49_1440	1440	14	0.97	95	0.04	—	3450	24	0.63	100	0.03	—	3450	22	
	VF/VF 30/49_2160	2160	11	0.65	95	0.03	—	3450	21	0.42	100	0.02	—	3450	22	
	VF/VF 30/49_2700	2700	10	0.52	95	0.03	—	3450	17	0.33	100	0.02	—	3450	17	

(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)



W 63 - WR 63

190 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
W 63	W 63_7	7	70	400	105	4.9	480	1010	90	200	120	2.9	480	1550	88	184
	W 63_10	10	66	280	125	4.2	370	1360	88	140	140	2.4	480	1840	86	
	W 63_12	12	63	233	125	3.5	435	1540	87	117	140	2.0	480	2070	85	
	W 63_15	15	59	187	125	2.8	410	1770	86	93	150	1.8	480	2280	83	
	W 63_19	19	55	147	130	2.4	310	1990	84	74	150	1.4	480	2600	81	
	W 63_24	24	52	117	130	1.9	370	2250	82	58	155	1.2	480	2890	78	
	W 63_30	30	44	93	125	1.6	440	2540	78	47	160	1.1	460	3170	74	
	W 63_38	38	40	74	130	1.3	330	2800	75	37	155	0.85	480	3580	70	
	W 63_45	45	37	62	130	1.2	380	3020	73	31	145	0.71	480	3920	67	
	W 63_64	64	31	44	110	0.75	480	3650	67	21.9	125	0.47	480	4680	61	
	W 63_80	80	27	35	100	0.59	480	4050	62	17.5	115	0.38	480	5000	56	
	W 63_100	100	23	28	100	0.51	480	4420	58	14.0	115	0.33	480	5000	51	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
W 63	W 63_7	7	70	129	130	2.0	480	1870	87	71	140	1.2	480	2420	84	184
	W 63_10	10	66	90	150	1.7	480	2220	84	50	165	1.1	480	2830	81	
	W 63_12	12	63	75	150	1.4	480	2480	82	42	165	0.92	480	3140	79	
	W 63_15	15	59	60	160	1.3	480	2740	80	33	180	0.83	480	3430	76	
	W 63_19	19	55	47	160	1.0	480	3100	78	26.3	180	0.68	480	3860	73	
	W 63_24	24	52	38	165	0.86	480	3440	75	20.8	185	0.58	480	4280	70	
	W 63_30	30	44	30	170	0.76	480	3770	70	16.7	190	0.52	480	4690	64	
	W 63_38	38	40	23.7	165	0.62	480	4240	66	13.2	185	0.42	480	5000	61	
	W 63_45	45	37	20.0	155	0.52	480	4630	63	11.1	170	0.34	480	5000	58	
	W 63_64	64	31	14.1	135	0.35	480	5000	56	7.8	150	0.24	480	5000	51	
	W 63_80	80	27	11.3	125	0.28	480	5000	52	6.3	135	0.19	480	5000	46	
	W 63_100	100	23	9.0	120	0.25	480	5000	46	5.0	130	0.17	480	5000	41	

220 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
WR 63	WR 63_21	21	69	133	130	2.1	180	1840	87	67	140	1.2	320	2510	84	185
	WR 63_30	30	65	93	150	1.7	300	2180	84	47	165	1.0	320	2920	81	
	WR 63_36	36	62	78	150	1.5	320	2430	82	39	165	0.85	320	3240	79	
	WR 63_45	45	58	62	160	1.3	320	2690	80	31	180	0.77	320	3540	76	
	WR 63_57	57	54	49	160	1.1	320	3050	78	24.6	180	0.63	320	3980	73	
	WR 63_72	72	51	39	165	0.90	320	3390	75	19.4	185	0.54	320	4410	70	
	WR 63_90	90	44	31	170	0.79	320	3710	70	15.6	190	0.48	320	4830	64	
	WR 63_114	114	39	24.6	165	0.62	320	4170	68	12.3	185	0.39	320	5000	61	
	WR 63_135	135	36	20.7	155	0.53	320	4560	63	10.4	170	0.32	320	5000	58	
	WR 63_192	192	30	14.6	135	0.37	320	5000	56	7.3	150	0.22	320	5000	51	
	WR 63_240	240	26	11.7	125	0.29	320	5000	52	5.8	135	0.18	320	5000	46	
	WR 63_300	300	22	9.3	120	0.25	320	5000	46	4.7	130	0.15	320	5000	41	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
WR 63	WR 63_21	21	69	43	155	0.85	320	2960	82	23.8	170	0.53	320	3750	80	185
	WR 63_30	30	65	30	180	0.72	320	3470	79	16.7	200	0.45	320	4360	77	
	WR 63_36	36	62	25.0	180	0.61	320	3830	77	14.0	200	0.40	320	4790	74	
	WR 63_45	45	58	20.0	190	0.54	320	4230	74	11.1	200	0.33	320	5000	71	
	WR 63_57	57	54	15.8	190	0.44	320	4740	71	8.8	200	0.27	320	5000	68	
	WR 63_72	72	51	12.5	190	0.37	320	5000	68	6.9	190	0.22	320	5000	64	
	WR 63_90	90	44	10.0	205	0.35	320	5000	62	5.6	220	0.22	320	5000	58	
	WR 63_114	114	39	7.9	200	0.29	320	5000	58	4.4	210	0.18	320	5000	54	
	WR 63_135	135	36	6.7	180	0.23	320	5000	54	3.7	190	0.15	320	5000	50	
	WR 63_192	192	30	4.7	150	0.16	320	5000	47	2.6	150	0.10	320	5000	43	
	WR 63_240	240	26	3.8	140	0.13	320	5000	43	2.1	140	0.08	320	5000	39	
	WR 63_300	300	22	3.0	130	0.11	320	5000	38	1.7	130	0.07	320	5000	34	

VF/W 30/63

230 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= **1400** min^{-1}						n_1 = **900** min^{-1}						
VF/W 30/63	**VF/W 30/63_240**	240	33	5.8	210	0.27	80	5000	47	3.8	230	0.20	150	5000	45	186
	VF/W 30/63_315	315	26	4.4	210	0.23	140	5000	42	2.9	230	0.17	150	5000	41	
	VF/W 30/63_450	450	25	3.1	210	0.17	—	5000	41	2.0	230	0.11	—	5000	42	
	VF/W 30/63_570	570	22	2.5	210	0.14	—	5000	40	1.6	230	0.11	—	5000	36	
	VF/W 30/63_720	720	21	1.9	210	0.12	—	5000	37	1.3	230	0.09	—	5000	32	
	VF/W 30/63_900	900	18	1.6	210	0.11	—	5000	30	1.0	230	0.08	—	5000	29	
	VF/W 30/63_1200	1200	16	1.2	210	0.11	—	5000	24	0.75	230	0.07	—	5000	25	
	VF/W 30/63_1520	1520	14	0.92	210	0.08	—	5000	24	0.59	230	0.06	—	5000	23	
	VF/W 30/63_2280	2280	12	0.61	210	0.06	—	5000	21	0.39	230	0.04	—	5000	23	
	VF/W 30/63_2700	2700	11	0.52	210	0.05	—	5000	22	0.33	230	0.04	—	5000	19	

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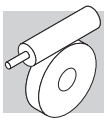
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)



W 75 - WR 75

320 Nm

			n_2	M_{n2}	P_{n1}	R_{n1}	R_{n2}	η_d	n_2	M_{n2}	P_{n1}	R_{n1}	R_{n2}	η_d	
	i	η_s %	min^{-1}	Nm	kW	N	N	%	min^{-1}	Nm	kW	N	N	%	
			n_1 = 2800 min^{-1}						n_1 = 1400 min^{-1}						
W 75	W 75_7	7	71	400	170	7.8	750	700	91	200	190	4.4	750	1530	90	184
	W 75_10	10	67	280	205	6.7	750	1610	90	140	230	3.8	750	2240	88	
	W 75_15	15	60	187	225	5.0	750	2120	88	93	250	2.9	750	2870	85	
	W 75_20	20	56	140	225	3.8	750	2550	86	70	250	2.2	750	3410	83	
	W 75_25	25	52	112	225	3.2	750	2900	83	56	250	1.8	750	3840	80	
	W 75_30	30	45	93	240	2.9	750	3100	81	47	270	1.7	750	4090	77	
	W 75_40	40	40	70	225	2.1	750	3660	77	35	255	1.3	750	4770	72	
	W 75_50	50	36	56	195	1.6	750	4180	73	28.0	220	0.95	750	5410	68	
	W 75_60	60	33	47	180	1.3	750	4610	70	23.3	200	0.75	750	5960	65	
	W 75_80	80	28	35	160	0.90	750	5310	65	17.5	180	0.56	750	6200	59	
	W 75_100	100	25	28.0	135	0.65	750	5960	61	14.0	150	0.40	750	6200	55	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	W 75_7	7	71	129	205	3.1	750	2120	88	71	225	2.0	750	2940	86	184
	W 75_10	10	67	90	250	2.7	750	2700	86	50	275	1.7	750	3480	84	
	W 75_15	15	60	60	270	2.0	750	3440	83	33	295	1.3	750	4380	80	
	W 75_20	20	56	45	270	1.6	750	4050	80	25.0	295	1.0	750	5120	77	
	W 75_25	25	52	36	270	1.3	750	4550	77	20.0	295	0.85	750	5720	73	
	W 75_30	30	45	30	290	1.2	750	4860	74	16.7	320	0.81	750	6080	69	
	W 75_40	40	40	22.5	275	1.0	750	5630	68	12.5	305	0.63	750	6200	63	
	W 75_50	50	36	18.0	235	0.70	750	6200	63	10.0	260	0.47	750	6200	58	
	W 75_60	60	33	15.0	215	0.56	750	6200	60	8.3	235	0.37	750	6200	55	
	W 75_80	80	28	11.3	195	0.43	750	6200	54	6.3	215	0.29	750	6200	49	
	W 75_100	100	25	9.0	160	0.30	750	6200	50	5.0	180	0.21	750	6200	44	

420 Nm

			n_2	M_{n2}	P_{n1}	R_{n1}	R_{n2}	η_d	n_2	M_{n2}	P_{n1}	R_{n1}	R_{n2}	η_d	
	i	η_s %	min^{-1}	Nm	kW	N	N	%	min^{-1}	Nm	kW	N	N	%	
			n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
WR 75	WR 75_21	21	70	133	205	3.3	500	2030	88	67	225	1.8	500	3060	86	185
	WR 75_30	30	66	93	250	2.8	500	2640	86	47	275	1.6	500	3610	84	
	WR 75_45	45	59	62	270	2.1	500	3380	83	31	295	1.2	500	4530	80	
	WR 75_60	60	55	47	270	1.6	500	3980	80	23.3	295	0.94	500	5280	77	
	WR 75_75	75	51	37	270	1.4	500	4480	77	18.7	295	0.79	500	5890	73	
	WR 75_90	90	44	31	290	1.3	500	4780	74	15.6	320	0.76	500	6200	69	
	WR 75_120	120	39	23.3	275	1.0	500	5540	68	11.7	305	0.59	500	6200	63	
	WR 75_150	150	35	18.7	235	0.73	500	6200	63	9.3	260	0.44	500	6200	58	
	WR 75_180	180	32	15.6	215	0.58	500	6200	60	7.8	235	0.35	500	6200	55	
	WR 75_240	240	27	11.7	195	0.44	500	6200	54	5.8	215	0.27	500	6200	49	
	WR 75_300	300	24	9.3	160	0.31	500	6200	50	4.7	180	0.20	500	6200	44	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	WR 75_21	21	70	43	245	1.3	500	3660	85	23.8	270	0.82	500	4660	82	185
	WR 75_30	30	66	30	330	1.3	500	4070	82	16.7	370	0.81	500	5160	80	
	WR 75_45	45	59	20.0	350	0.94	500	5180	78	11.1	400	0.62	500	6200	75	
	WR 75_60	60	55	15.0	330	0.69	500	6180	75	8.3	370	0.45	500	6200	71	
	WR 75_75	75	51	12.0	330	0.59	500	6200	70	6.7	350	0.37	500	6200	66	
	WR 75_90	90	44	10.0	370	0.58	500	6200	67	5.6	420	0.39	500	6200	63	
	WR 75_120	120	39	7.5	330	0.43	500	6200	60	4.2	380	0.30	500	6200	56	
	WR 75_150	150	35	6.0	310	0.35	500	6200	55	3.3	350	0.24	500	6200	51	
	WR 75_180	180	32	5.0	280	0.29	500	6200	51	2.8	320	0.20	500	6200	47	
	WR 75_240	240	27	3.8	220	0.19	500	6200	45	2.1	280	0.15	500	6200	41	
	WR 75_300	300	24	3.0	200	0.15	500	6200	41	1.7	260	0.12	500	6200	37	

WR 75 - VF/W 44/75

370 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1 = 2800 min^{-1}						n_1 = 1400 min^{-1}						
WR 75_P90 B5	**WR 75_15**	15	66	187	220	4.8	—	1960	89	93	250	2.8	—	2640	86	185
	WR 75_22.5	22.5	59	124	240	3.6	—	2530	86	62	270	2.1	—	3380	83	
	WR 75_30	30	55	93	240	2.8	—	3020	84	47	270	1.6	—	3980	80	
	WR 75_37.5	37.5	51	75	240	2.3	—	3410	81	37	270	1.4	—	4480	77	
	WR 75_45	45	44	62	255	2.1	—	3660	79	31	290	1.3	—	4780	74	
	WR 75_60	60	39	47	240	1.6	—	4290	74	23.3	275	1.0	—	5540	68	
	WR 75_75	75	35	37	210	1.2	—	4860	70	18.7	235	0.73	—	6200	63	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	WR 75_15	15	66	60	275	2.1	—	3150	84	33	330	1.4	—	3850	82	185
	WR 75_22.5	22.5	59	40	295	1.5	—	4010	80	22.2	350	1.0	—	4920	78	
	WR 75_30	30	55	30	295	1.2	—	4710	77	16.7	330	0.77	—	5890	75	
	WR 75_37.5	37.5	51	24	295	1.0	—	5280	73	13.3	330	0.66	—	6200	70	
	WR 75_45	45	44	20	320	1.0	—	5610	69	11.1	370	0.64	—	6200	67	
	WR 75_60	60	39	15	305	0.76	—	6200	63	8.3	330	0.48	—	6200	60	
	WR 75_75	75	35	12	260	0.56	—	6200	58	6.7	310	0.39	—	6200	55	

400 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 1400 min^{-1}						n_1 = 900 min^{-1}						
VF/W 44/75	**VF/W 44/75_250**	250	34	5.6	370	0.38	220	4560	57	3.6	400	0.29	220	4660	52	186
	VF/W 44/75_300	300	30	4.7	370	0.35	220	5160	51	3.0	400	0.27	220	5150	46	
	VF/W 44/75_400	400	26	3.5	370	0.29	220	6200	46	2.3	400	0.22	220	6200	42	
	VF/W 44/75_525	525	25	2.7	370	0.23	220	6200	44	1.7	400	0.18	220	6200	41	
	VF/W 44/75_700	700	24	2.0	370	0.18	220	6200	42	1.3	400	0.14	220	6200	39	
	VF/W 44/75_920	920	21	1.5	370	0.15	—	6200	40	1.0	400	0.11	60	6200	36	
	VF/W 44/75_1200	1200	18	1.2	370	0.12	—	6200	37	0.75	400	0.10	220	6200	31	
	VF/W 44/75_1500	1500	17	0.93	370	0.10	220	6200	37	0.60	400	0.09	220	6200	29	
	VF/W 44/75_2100	2100	14	0.67	370	0.09	220	6200	30	0.43	400	0.07	220	6200	24	
	VF/W 44/75_2800	2800	12	0.50	370	0.07	220	6200	26	0.32	400	0.06	220	6200	22	

(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
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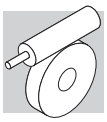
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)



W 86 - WR 86

440 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1 = **2800** min^{-1}						n_1 = **1400** min^{-1}						
W 86	**W 86_7**	7	71	400	225	10.4	850	2930	91	200	250	5.9	850	3920	89	184
	W 86_10	10	67	280	260	8.5	850	3490	90	140	290	4.8	850	4620	88	
	W 86_15	15	60	187	295	6.6	850	4200	87	93	330	3.8	850	5510	85	
	W 86_20	20	60	140	285	4.9	850	4900	86	70	320	2.8	850	6380	84	
	W 86_23	23	58	122	285	4.3	850	5250	85	61	320	2.5	850	6800	82	
	W 86_30	30	45	93	320	3.9	850	5740	81	47	370	2.4	850	7000	76	
	W 86_40	40	45	70	295	2.7	850	6670	79	35	330	1.6	850	7000	75	
	W 86_46	46	43	61	305	2.5	850	7000	77	30	340	1.5	850	7000	73	
	W 86_56	56	39	50	265	1.8	850	7000	75	25.0	300	1.1	850	7000	70	
	W 86_64	64	37	44	250	1.6	850	7000	73	21.9	280	0.94	850	7000	68	
	W 86_80	80	33	35	225	1.2	850	7000	69	17.5	255	0.73	850	7000	64	
	W 86_100	100	29	28.0	205	0.92	850	7000	65	14.0	230	0.57	850	7000	59	
				n_1= **900** min^{-1}						n_1 = **500** min^{-1}						
W 86	**W 86_7**	7	71	129	270	4.1	850	4670	88	71	295	2.6	850	5890	85	184
	W 86_10	10	67	90	310	3.4	850	5500	86	50	345	2.2	850	6860	82	
	W 86_15	15	60	60	355	2.7	850	6520	82	33	390	1.7	850	7000	78	
	W 86_20	20	60	45	345	2.0	850	7000	81	25.0	380	1.3	850	7000	77	
	W 86_23	23	58	39	345	1.8	850	7000	80	21.7	380	1.2	850	7000	75	
	W 86_30	30	45	30	400	1.7	850	7000	73	16.7	440	1.1	850	7000	67	
	W 86_40	40	45	22.5	355	1.2	850	7000	71	12.5	390	0.77	850	7000	66	
	W 86_46	46	43	19.6	365	1.1	850	7000	69	10.9	405	0.73	850	7000	63	
	W 86_56	56	39	16.1	325	0.83	850	7000	66	8.9	355	0.55	850	7000	60	
	W 86_64	64	37	14.1	300	0.70	850	7000	63	7.8	330	0.47	850	7000	58	
	W 86_80	80	33	11.3	275	0.55	850	7000	59	6.3	305	0.38	850	7000	53	
	W 86_100	100	29	9.0	250	0.43	850	7000	55	5.0	275	0.29	850	7000	49	

550 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= **2800** min^{-1}						n_1 = **1400** min^{-1}						
WR 86	**WR 86_21**	21	70	133	270	4.3	500	4590	88	67	295	2.4	500	6070	85	185
	WR 86_30	30	66	93	310	3.5	500	5410	86	47	345	2.1	500	7000	82	
	WR 86_45	45	59	62	355	2.8	500	6420	82	31	390	1.6	500	7000	78	
	WR 86_60	60	59	47	345	2.1	500	7000	81	23.3	380	1.2	500	7000	77	
	WR 86_69	69	57	41	345	1.8	500	7000	80	20.3	380	1.1	500	7000	75	
	WR 86_90	90	44	31	400	1.8	500	7000	73	15.6	440	1.1	500	7000	67	
	WR 86_120	120	44	23.3	355	1.2	500	7000	71	11.7	390	0.72	500	7000	66	
	WR 86_138	138	42	20.3	365	1.1	500	7000	69	10.1	405	0.68	500	7000	63	
	WR 86_168	168	38	16.7	325	0.86	500	7000	66	8.3	355	0.52	500	7000	60	
	WR 86_192	192	36	14.6	300	0.73	500	7000	63	7.3	330	0.43	500	7000	58	
	WR 86_240	240	32	11.7	275	0.57	500	7000	59	5.8	305	0.35	500	7000	53	
	WR 86_300	300	28	9.3	250	0.44	500	7000	55	4.7	275	0.27	500	7000	49	
				n_1= **900** min^{-1}						n_1 = **500** min^{-1}						
WR 86	**WR 86_21**	21	70	43	325	1.8	500	7000	83	23.8	355	1.1	500	7000	81	185
	WR 86_30	30	66	30	375	1.5	500	7000	81	16.7	415	0.93	500	7000	78	
	WR 86_45	45	59	20.0	450	1.2	500	7000	76	11.1	500	0.80	500	7000	73	
	WR 86_60	60	59	15.0	430	0.90	500	7000	75	8.3	440	0.53	500	7000	72	
	WR 86_69	69	57	13.0	390	0.73	500	7000	73	7.2	400	0.43	500	7000	70	
	WR 86_90	90	44	10.0	500	0.82	500	7000	64	5.6	550	0.53	500	7000	60	
	WR 86_120	120	44	7.5	440	0.55	500	7000	63	4.2	470	0.35	500	7000	59	
	WR 86_138	138	42	6.5	430	0.48	500	7000	61	3.6	440	0.30	500	7000	56	
	WR 86_168	168	38	5.4	390	0.38	500	7000	57	3.0	410	0.24	500	7000	53	
	WR 86_192	192	36	4.7	390	0.35	500	7000	55	2.6	410	0.22	500	7000	50	
	WR 86_240	240	32	3.8	310	0.24	500	7000	50	2.1	320	0.15	500	7000	46	
	WR 86_300	300	28	3.0	310	0.22	500	7000	45	1.7	320	0.14	500	7000	41	

WR 86 - VF/W 44/86

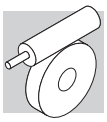
500 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1 = 2800 min^{-1}						n_1 = 1400 min^{-1}						
WR 86_P90 B5	**WR 86_15**	15	66	187	275	6.1	—	4130	88	93	310	3.5	—	5410	86	185
	WR 86_22.5	22.5	59	124	315	4.8	—	4920	86	62	355	2.8	—	6420	82	
	WR 86_30	30	59	93	305	3.5	—	5720	85	47	345	2.1	—	7000	81	
	WR 86_34.5	34.5	57	81	305	3.1	—	6110	84	41	345	1.8	—	7000	80	
	WR 86_45	45	44	62	350	3.0	—	6640	77	31	400	1.8	—	7000	73	
	WR 86_60	60	44	47	315	2.0	—	7000	77	23.3	355	1.2	—	7000	71	
	WR 86_69	69	42	41	325	1.8	—	7000	75	20.3	365	1.1	—	7000	69	
	WR 86_84	84	38	33	285	1.4		7000	72	16.7	325	0.86		7000	66	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	WR 86_15	15	66	60	345	2.6	—	6330	82	33	375	1.6	—	7000	81	185
	WR 86_22.5	22.5	59	40	390	2.1	—	7000	78	22.2	450	1.4	—	7000	76	
	WR 86_30	30	59	30	380	1.6	—	7000	77	16.7	430	1.0	—	7000	75	
	WR 86_34.5	34.5	57	26.1	380	1.4	—	7000	75	14.5	390	0.8	—	7000	73	
	WR 86_45	45	44	20.0	440	1.4	—	7000	67	11.1	500	0.9	—	7000	64	
	WR 86_60	60	44	15.0	390	0.93	—	7000	66	8.3	440	0.61	—	7000	63	
	WR 86_69	69	42	13.0	405	0.88	—	7000	63	7.2	430	0.53	—	7000	61	
	WR 86_84	84	38	10.7	355	0.66		7000	60	6.0	390	0.43		7000	57	

550 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 1400 min^{-1}						n_1 = 900 min^{-1}						
VF/W 44/86	**VF/W 44/86_230**	230	38	6.1	500	0.59	220	7000	54	3.9	550	0.43	220	7000	53	186
	VF/W 44/86_300	300	30	4.7	500	0.54	220	7000	45	3.0	550	0.41	220	7000	42	
	VF/W 44/86_400	400	30	3.5	500	0.45	220	7000	41	2.3	550	0.32	220	7000	41	
	VF/W 44/86_525	525	25	2.7	500	0.33	220	7000	42	1.7	550	0.25	220	7000	39	
	VF/W 44/86_700	700	25	2.0	500	0.27	220	7000	39	1.3	550	0.20	220	7000	37	
	VF/W 44/86_920	920	22	1.5	500	0.20	220	7000	40	1.0	550	0.15	—	7000	37	
	VF/W 44/86_1380	1380	17	1.0	500	0.17	220	7000	32	0.65	550	0.13	—	7000	28	
	VF/W 44/86_1840	1840	17	0.76	500	0.13	220	7000	30	0.49	550	0.10	—	7000	28	
	VF/W 44/86_2116	2116	16	0.66	500	0.12	220	7000	28	0.43	550	0.09	220	7000	28	
	VF/W 44/86_2760	2760	14	0.51	500	0.11	—	7000	24	0.33	550	0.08	220	7000	24	

(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)



W 110 - WR 110

830 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
W 110	W 110_7	7	71	400	445	20.7	1200	3710	90	200	500	11.8	1200	5020	89	184
	W 110_10	10	67	280	490	16.1	1200	4650	89	140	550	9.3	1200	6190	87	
	W 110_15	15	60	187	535	12.0	1200	5770	87	93	600	7.0	1200	7590	84	
	W 110_20	20	61	140	510	8.7	1200	6790	86	70	570	5.0	1200	8000	84	
	W 110_23	23	59	122	480	7.1	1200	7430	86	61	540	4.1	1200	8000	83	
	W 110_30	30	45	93	625	7.5	1200	7780	81	47	700	4.4	1200	8000	77	
	W 110_40	40	46	70	595	5.5	1200	8000	80	35	670	3.2	1200	8000	76	
	W 110_46	46	44	61	535	4.3	1200	8000	79	30	600	2.6	1200	8000	74	
	W 110_56	56	41	50	535	3.7	1200	8000	76	25.0	600	2.2	1200	8000	72	
	W 110_64	64	38	44	470	2.9	1200	8000	74	21.9	530	1.7	1200	8000	70	
	W 110_80	80	34	35	420	2.2	1200	8000	71	17.5	470	1.3	1200	8000	66	
	W 110_100	100	30	28.0	410	1.8	1200	8000	67	14.0	460	1.1	1200	8000	62	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
W 110	W 110_7	7	71	129	540	8.3	1200	6040	88	71	595	5.2	1200	7680	86	184
	W 110_10	10	67	90	590	6.5	1200	7410	86	50	655	4.1	1200	8000	84	
	W 110_15	15	60	60	645	4.9	1200	8000	83	33	710	3.1	1200	8000	80	
	W 110_20	20	61	45	615	3.5	1200	8000	82	25.0	675	2.2	1200	8000	79	
	W 110_23	23	59	39	580	2.9	1200	8000	81	21.7	640	1.9	1200	8000	77	
	W 110_30	30	45	30	755	3.2	1200	8000	74	16.7	830	2.1	1200	8000	70	
	W 110_40	40	46	22.5	720	2.3	1200	8000	73	12.5	795	1.5	1200	8000	68	
	W 110_46	46	44	19.6	645	1.9	1200	8000	71	10.9	710	1.2	1200	8000	66	
	W 110_56	56	41	16.1	645	1.6	1200	8000	68	8.9	710	1.1	1200	8000	63	
	W 110_64	64	38	14.1	570	1.3	1200	8000	65	7.8	630	0.86	1200	8000	60	
	W 110_80	80	34	11.3	505	0.98	1200	8000	61	6.3	560	0.65	1200	8000	56	
	W 110_100	100	30	9.0	495	0.82	1200	8000	57	5.0	545	0.56	1200	8000	51	

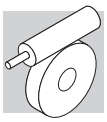
1000 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
WR 110	WR 110_21	21	70	133	540	8.6	700	5930	88	67	595	4.8	700	7950	86	185
	WR 110_30	30	66	93	590	6.7	700	7280	86	47	655	3.8	700	8000	84	
	WR 110_45	45	59	62	645	5.1	700	8000	83	31	710	2.9	700	8000	80	
	WR 110_60	60	60	47	615	3.7	700	8000	82	23.3	675	2.1	700	8000	79	
	WR 110_69	69	58	41	580	3.0	700	8000	81	20.3	640	1.8	700	8000	77	
	WR 110_90	90	44	31	755	3.3	700	8000	74	15.6	830	1.9	700	8000	70	
	WR 110_120	120	45	23.3	720	2.4	700	8000	73	11.7	795	1.4	700	8000	68	
	WR 110_138	138	43	20.3	645	1.9	700	8000	71	10.1	710	1.1	700	8000	66	
	WR 110_168	168	40	16.7	645	1.7	700	8000	68	8.3	710	0.98	700	8000	63	
	WR 110_192	192	37	14.6	570	1.3	700	8000	65	7.3	630	0.80	700	8000	60	
	WR 110_240	240	33	11.7	505	1.0	700	8000	61	5.8	560	0.61	700	8000	56	
	WR 110_300	300	29	9.3	495	0.85	700	8000	57	4.7	545	0.52	700	8000	51	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
WR 110	WR 110_21	21	70	43	645	3.4	700	8000	84	23.8	715	2.2	700	8000	82	185
	WR 110_30	30	66	30	710	2.8	700	8000	81	16.7	785	1.7	700	8000	79	
	WR 110_45	45	59	20.0	870	2.4	700	8000	77	11.1	950	1.5	700	8000	75	
	WR 110_60	60	60	15.0	800	1.6	700	8000	77	8.3	850	1.0	700	8000	74	
	WR 110_69	69	58	13.0	750	1.4	700	8000	75	7.2	820	0.86	700	8000	72	
	WR 110_90	90	44	10.0	900	1.4	700	8000	66	5.6	1000	0.94	700	8000	62	
	WR 110_120	120	45	7.5	870	1.1	700	8000	65	4.2	950	0.68	700	8000	61	
	WR 110_138	138	43	6.5	800	0.87	700	8000	63	3.6	900	0.58	700	8000	59	
	WR 110_168	168	40	5.4	775	0.72	700	8000	60	3.0	800	0.45	700	8000	55	
	WR 110_192	192	37	4.7	685	0.59	700	8000	57	2.6	720	0.37	700	8000	53	
	WR 110_240	240	33	3.8	590	0.44	700	8000	53	2.1	620	0.28	700	8000	48	
	WR 110_300	300	29	3.0	570	0.37	700	8000	48	1.7	600	0.24	700	8000	44	

VF/W 49/110

1050 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= **1400** min^{-1}						n_1 = **900** min^{-1}						
VF/W 49/110	**VF/W 49/110_230**	230	38	6.1	1000	1.2	400	8000	52	3.9	1050	0.84	400	8000	51	186
	VF/W 49/110_300	300	29	4.7	1000	1.0	400	8000	48	3.0	1050	0.70	400	8000	47	
	VF/W 49/110_400	400	30	3.5	1000	0.81	400	8000	45	2.3	1050	0.55	400	8000	45	
	VF/W 49/110_540	540	25	2.6	1000	0.66	400	8000	41	1.7	1050	0.48	400	8000	38	
	VF/W 49/110_720	720	24	1.9	1000	0.51	400	8000	40	1.3	1050	0.36	400	8000	38	
	VF/W 49/110_1080	1080	18	1.3	1000	0.44	400	8000	31	0.83	1050	0.28	400	8000	30	
	VF/W 49/110_1350	1350	16	1.0	1000	0.36	400	8000	30	0.67	1050	0.26	400	8000	28	
	VF/W 49/110_1656	1656	17	0.85	1000	0.30	400	8000	30	0.54	1050	0.20	400	8000	30	
	VF/W 49/110_2070	2070	15	0.68	1000	0.25	400	8000	28	0.43	1050	0.19	400	8000	25	
	VF/W 49/110_2800	2800	13	0.50	1000	0.22	400	8000	24	0.32	1050	0.17	400	8000	21	



VF 130 - VFR 130

1500 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VF 130	VF 130_7	7	71	400	555	25	1500	4930	91	200	740	17.4	1500	5990	89	184
	VF 130_10	10	67	280	593	19.3	1500	6210	90	140	790	13.3	1500	7620	88	
	VF 130_15	15	63	187	690	15.3	1500	7390	88	93	920	10.6	1500	9100	86	
	VF 130_20	20	59	140	675	11.4	1500	8670	87	70	900	8.0	1500	10700	84	
	VF 130_23	23	57	122	668	9.9	1500	9300	86	61	890	6.9	1500	11500	83	
	VF 130_30	30	49	93	788	9.3	1040	10100	83	47	1050	6.6	—	12500	79	
	VF 130_40	40	44	70	825	7.6	—	11400	80	35	1100	5.4	—	12600	76	
	VF 130_46	46	45	61	788	6.3	1290	12200	80	30.0	1050	4.5	—	12600	76	
	VF 130_56	56	42	50	720	4.8	1500	12600	78	25.0	960	3.4	940	12600	73	
	VF 130_64	64	39	44	698	4.2	1500	12600	76	21.9	930	3.0	1220	12600	71	
	VF 130_80	80	35	35	660	3.3	1500	12600	73	17.5	880	2.4	1500	12600	68	
	VF 130_100	100	31	28	585	2.5	1500	12600	70	14.0	780	1.8	1500	12600	64	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	VF 130_7	7	71	129	850	13.0	1500	6980	88	71	1000	8.8	1500	8670	86	184
	VF 130_10	10	67	90	900	9.9	1500	8900	87	50	1100	6.9	1500	10800	84	
	VF 130_15	15	63	60	1080	8.1	1500	10490	84	33	1350	5.9	1500	12600	81	
	VF 130_20	20	59	45	1050	6.1	1500	12400	82	25.0	1350	4.6	1500	13800	79	
	VF 130_23	23	57	39	1050	5.4	1500	13200	81	21.7	1300	3.9	1500	13800	77	
	VF 130_30	30	49	30.0	1250	5.2	—	13200	77	16.7	1500	3.7	—	13800	72	
	VF 130_40	40	44	22.5	1200	3.9	—	13200	73	12.5	1400	2.8	—	13800	68	
	VF 130_46	46	45	19.6	1150	3.3	490	13200	73	10.9	1350	2.3	1270	13800	68	
	VF 130_56	56	42	16.1	1080	2.7	1500	13200	70	8.9	1200	1.8	1500	13800	65	
	VF 130_64	64	39	14.1	1050	2.4	1500	13200	68	7.8	1200	1.6	1500	13800	62	
	VF 130_80	80	35	11.3	950	1.8	1500	13200	64	6.3	1150	1.3	1500	13800	58	
	VF 130_100	100	31	9.0	800	1.3	1500	13200	59	5.0	900	0.91	1500	13800	54	

1800 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VFR 130	VFR 130 _60	60	58	47	1050	6.4	1000	12400	81	23.3	1350	4.3	1000	13800	78	185
	VFR 130 _69	69	56	41	1050	5.6	1000	13200	80	20.3	1300	3.7	1000	13800	76	
	VFR 130 _90	90	48	31	1250	5.4	1000	13200	76	15.6	1500	3.5	1000	13800	71	
	VFR 130 _120	120	43	23.3	1200	4.1	1000	13200	72	11.7	1400	2.6	1000	13800	67	
	VFR 130 _138	138	44	20.3	1150	3.4	1000	13200	72	10.1	1350	2.2	1000	13800	67	
	VFR 130 _168	168	41	16.7	1080	2.7	1000	13200	69	8.3	1200	1.6	1000	13800	64	
	VFR 130 _192	192	38	14.6	1050	2.4	1000	13200	67	7.3	1200	1.5	1000	13800	61	
	VFR 130 _240	240	34	11.7	950	1.9	1000	13200	63	5.8	1150	1.2	1000	13800	57	
	VFR 130 _300	300	30	9.3	800	1.4	1000	13200	58	4.7	900	0.83	1000	13800	53	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	VFR 130 _60	60	58	15.0	1450	3.1	1000	13800	75	8.3	1600	1.9	1000	13800	74	185
	VFR 130 _69	69	56	13.0	1450	2.7	1000	13800	74	7.2	1550	1.6	1000	13800	72	
	VFR 130 _90	90	48	10.0	1600	2.5	1000	13800	68	5.6	1800	1.6	1000	13800	66	
	VFR 130 _120	120	43	7.5	1600	2.0	1000	13800	63	4.2	1800	1.3	1000	13800	61	
	VFR 130 _138	138	44	6.5	1500	1.6	1000	13800	64	3.6	1600	1.0	1000	13800	61	
	VFR 130 _168	168	41	5.4	1350	1.3	1000	13800	60	3.0	1450	0.78	1000	13800	58	
	VFR 130 _192	192	38	4.7	1300	1.1	1000	13800	58	2.6	1400	0.70	1000	13800	55	
	VFR 130 _240	240	34	3.8	1200	0.87	1000	13800	54	2.1	1250	0.54	1000	13800	51	
	VFR 130 _300	300	30	3.0	1000	0.64	1000	13800	49	1.7	1100	0.41	1000	13800	47	

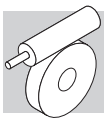
(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)

W/VF 63/130

1850 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= **1400** min^{-1}						n_1 = **900** min^{-1}						
W/VF 63/130	**W/VF 63/130_280**	280	31	5.0	1800	1.9	480	13800	50	3.2	1850	1.3	480	13800	48	186
	W/VF 63/130_400	400	29	3.5	1800	1.5	480	13800	44	2.3	1850	0.99	480	13800	44	
	W/VF 63/130_600	600	26	2.3	1800	1.1	480	13800	40	1.5	1850	0.73	480	13800	40	
	W/VF 63/130_760	760	24	1.8	1800	0.89	480	13800	39	1.2	1850	0.62	480	13800	37	
	W/VF 63/130_960	960	23	1.5	1800	0.74	480	13800	37	0.94	1850	0.52	480	13800	35	
	W/VF 63/130_1200	1200	19	1.2	1800	0.65	—	13800	34	0.75	1850	0.45	—	13800	32	
	W/VF 63/130_1520	1520	18	0.92	1800	0.55	—	13800	32	0.59	1850	0.38	—	13800	30	
	W/VF 63/130_1800	1800	16	0.78	1800	0.52	—	13800	28	0.50	1850	0.37	—	13800	26	
	W/VF 63/130_2560	2560	14	0.55	1800	0.45	—	13800	23	0.35	1850	0.32	—	13800	21	
	W/VF 63/130_3200	3200	12	0.44	1800	0.49	—	13800	17	0.28	1850	0.34	480	13800	16	

(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)



VF 150 - VFR 150

2000 Nm

		i	η_s %	n_{2-1} min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_{2-1} min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VF 150	VF 150_7	7	72	400	750	35	2200	5010	91	200	1000	24	2200	6040	90	184
	VF 150_10	10	68	280	788	25	2200	6630	90	140	1050	17.5	2200	8120	88	
	VF 150_15	15	64	187	863	19.0	2200	8110	89	93	1150	13.1	2200	9990	87	
	VF 150_20	20	59	140	975	16.4	2200	9170	87	70	1300	11.3	2200	11300	84	
	VF 150_23	23	57	122	953	14.1	2200	9940	86	61	1270	9.8	2200	12300	83	
	VF 150_30	30	48	93	1028	12.1	2200	11100	83	47	1370	8.5	2200	13700	80	
	VF 150_40	40	44	70	1155	10.5	2200	12300	81	35	1540	7.4	830	14700	77	
	VF 150_46	46	45	61	1163	9.2	2200	13100	81	30.0	1550	6.5	1400	14700	77	
	VF 150_56	56	42	50	1028	6.8	2200	14600	79	25.0	1370	4.9	2200	14700	74	
	VF 150_64	64	39	44	998	5.9	2200	14700	77	21.9	1330	4.2	2200	14700	72	
	VF 150_80	80	35	35	938	4.6	2200	14700	74	17.5	1250	3.4	2200	14700	69	
	VF 150_100	100	31	28	863	3.6	2200	14700	71	14.0	1150	2.6	2200	14700	65	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
VF 150	VF 150_7	7	72	129	1150	17.6	2200	7040	89	71	1400	12.2	2200	8560	87	184
	VF 150_10	10	68	90	1200	13.0	2200	9480	87	50	1500	9.4	2200	11400	85	
	VF 150_15	15	64	60	1350	10.0	2200	11500	85	33	1700	7.3	2200	13800	83	
	VF 150_20	20	59	45	1500	8.6	2200	13100	83	25.0	1900	6.4	2200	15700	80	
	VF 150_23	23	57	39	1500	7.6	2200	14200	82	21.7	1850	5.5	2200	16000	78	
	VF 150_30	30	48	30.0	1600	6.5	2200	15500	77	16.7	1950	4.8	2200	16000	73	
	VF 150_40	40	44	22.5	1750	5.6	1150	15500	74	12.5	2000	3.9	2200	16000	69	
	VF 150_46	46	45	19.6	1750	4.9	2100	15500	74	10.9	2000	3.4	2200	16000	69	
	VF 150_56	56	42	16.1	1500	3.7	2200	15500	71	8.9	1750	2.6	2200	16000	66	
	VF 150_64	64	39	14.1	1450	3.2	2200	15500	69	7.8	1700	2.3	2200	16000	63	
	VF 150_80	80	35	11.3	1350	2.5	2200	15500	65	6.3	1550	1.8	2200	16000	59	
	VF 150_100	100	31	9.0	1150	1.8	2200	15500	61	5.0	1300	1.3	2200	16000	55	

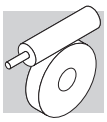
2600 Nm

		i	η_s %	n_{2-1} min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_{2-1} min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VFR 150	VFR 150 _45	45	63	62	1350	10.6	1500	11600	84	31	1700	6.8	1500	14600	82	185
	VFR 150 _60	60	58	47	1500	9.0	1500	13100	82	23.3	1900	5.9	1500	16000	79	
	VFR 150 _69	69	56	41	1500	7.9	1500	14100	81	20.3	1850	5.1	1500	16000	77	
	VFR 150 _90	90	47	31	1600	6.9	1500	15500	76	15.6	1950	4.4	1500	16000	72	
	VFR 150 _120	120	43	23.3	1750	5.9	1500	15500	73	11.7	2000	3.6	1500	16000	68	
	VFR 150 _138	138	44	20.3	1750	5.1	1500	15500	73	10.1	2000	3.1	1500	16000	68	
	VFR 150 _168	168	41	16.7	1500	3.8	1500	15500	70	8.3	1750	2.4	1500	16000	65	
	VFR 150 _192	192	38	14.6	1450	3.3	1500	15500	68	7.3	1700	2.1	1500	16000	62	
	VFR 150 _240	240	34	11.7	1350	2.6	1500	15500	64	5.8	1550	1.6	1500	16000	58	
	VFR 150 _300	300	30	9.3	1150	1.9	1500	15500	60	4.7	1300	1.2	1500	16000	54	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
VFR 150	VFR 150 _45	45	63	20.0	1950	5.2	1500	16000	79	11.1	2100	3.2	1500	16000	78	185
	VFR 150 _60	60	58	15.0	2100	4.4	1500	16000	76	8.3	2300	2.7	1500	16000	74	
	VFR 150 _69	69	56	13.0	2050	3.8	1500	16000	74	7.2	2200	2.3	1500	16000	72	
	VFR 150 _90	90	47	10.0	2200	3.4	1500	16000	69	5.6	2400	2.1	1500	16000	66	
	VFR 150 _120	120	43	7.5	2300	2.8	1500	16000	64	4.2	2600	1.8	1500	16000	62	
	VFR 150 _138	138	44	6.5	2200	2.4	1500	16000	64	3.6	2400	1.5	1500	16000	62	
	VFR 150 _168	168	41	5.4	1950	1.8	1500	16000	61	3.0	2100	1.1	1500	16000	59	
	VFR 150 _192	192	38	4.7	1900	1.6	1500	16000	59	2.6	2000	1.0	1500	16000	56	
	VFR 150 _240	240	34	3.8	1700	1.2	1500	16000	54	2.1	1800	0.76	1500	16000	52	
	VFR 150 _300	300	30	3.0	1350	0.85	1500	16000	50	1.7	1450	0.54	1500	16000	47	

W/VF 86/150

2700 Nm

	i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
			n_1= 1400 min^{-1}						n_1 = 900 min^{-1}						
W/VF 86/150	**W/VF 86/150_200**	200	29	7.0	2600	3.0	850	16000	64	4.5	2700	2.1	850	16000	61	
	W/VF 86/150_225	225	26	6.2	2600	2.7	850	16000	63	4.0	2700	1.9	850	16000	60	
	W/VF 86/150_300	300	26	4.7	2600	2.2	850	16000	58	3.0	2700	1.5	850	16000	57	
	W/VF 86/150_345	345	26	4.1	2600	1.9	850	16000	58	2.6	2700	1.3	850	16000	57	
	W/VF 86/150_460	460	26	3.0	2600	1.5	850	16000	55	2.0	2700	1.0	850	16000	55	186
	W/VF 86/150_529	529	26	2.6	2600	1.3	850	16000	55	1.7	2700	0.93	850	16000	52	
	W/VF 86/150_690	690	26	2.0	2600	1.1	850	16000	50	1.3	2700	0.78	850	16000	47	
	W/VF 86/150_920	920	26	1.5	2600	0.92	850	16000	45	0.98	2700	0.64	850	16000	43	
	W/VF 86/150_1380	1380	19	1.0	2600	0.66	850	16000	42	0.65	2700	0.46	850	16000	40	
	W/VF 86/150_1840	1840	19	0.76	2600	0.55	850	16000	38	0.49	2700	0.38	850	16000	36	
	W/VF 86/150_2944	2944	16	0.48	2600	0.48	850	16000	27	0.31	2700	0.35	850	16000	25	



VF 185 - VFR 185

3600 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VF 185	VF 185_7	7	72	400	1313	60	2800	4670	91	200	1750	41	2800	5570	90	184
	VF 185_10	10	68	280	1365	44	2800	7390	90	140	1820	30	2800	8960	89	
	VF 185_15	15	66	187	1388	30	2800	9460	89	93	1850	21	2800	11600	88	
	VF 185_20	20	59	140	1703	28	2800	10500	88	70	2270	19.6	2800	12900	85	
	VF 185_30	30	54	93	1485	16.9	2800	13700	86	47	1980	11.8	2800	16900	83	
	VF 185_40	40	44	70	1973	17.6	—	14500	82	35	2630	12.4	—	17900	78	
	VF 185_50	50	41	56	1875	13.7	—	16300	80	28.0	2500	9.8	—	18000	76	
	VF 185_60	60	39	47	1703	10.7	2800	18000	78	23.3	2270	7.6	770	18000	74	
	VF 185_80	80	33	35	1590	7.8	2800	18000	75	17.5	2120	5.6	1140	18000	69	
	VF 185_100	100	30	28.0	1425	5.8	2800	18000	72	14.0	1900	4.3	2800	18000	65	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	VF 185_7	7	72	129	2000	30	2800	7120	89	71	2450	21	2800	8730	88	184
	VF 185_10	10	68	90	2150	23	2800	10200	88	50	2600	16.0	2800	12500	86	
	VF 185_15	15	66	60	2250	16.4	2800	13100	86	33	2800	11.8	2800	15700	84	
	VF 185_20	20	59	45	2750	15.6	2800	14600	84	25.0	3300	10.9	2800	17900	81	
	VF 185_30	30	54	30.0	2400	9.4	2800	19000	81	16.7	2800	6.5	2800	19500	77	
	VF 185_40	40	44	22.5	3100	9.7	—	19000	76	12.5	3600	6.8	—	19500	71	
	VF 185_50	50	41	18.0	2900	7.6	—	19000	73	10.0	3300	5.2	—	19500	68	
	VF 185_60	60	39	15.0	2600	5.8	700	19000	71	8.3	3000	4.2	2800	19500	66	
	VF 185_80	80	33	11.3	2400	4.3	1770	19000	66	6.3	2800	3.2	2800	19500	60	
	VF 185_100	100	30	9.0	2000	3.0	2800	19000	62	5.0	2300	2.1	2800	19500	56	

4200 Nm

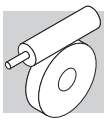
		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VFR 185	VFR 185 _90	90	53	31	2400	9.9	1700	19000	80	15.6	2800	6.0	1700	19500	76	185
	VFR 185 _120	120	43	23.3	3100	10.2	1700	19000	75	11.7	3600	6.3	1700	19500	70	
	VFR 185 _150	150	40	18.7	2900	7.9	1700	19000	72	9.3	3300	4.8	1700	19500	67	
	VFR 185 _180	180	38	15.6	2600	6.1	1700	19000	70	7.8	3000	3.8	1700	19500	65	
	VFR 185 _240	240	32	11.7	2400	4.5	1700	19000	65	5.8	2800	2.9	1700	19500	59	
	VFR 185 _300	300	29	9.3	2000	3.2	1700	19000	61	4.7	2300	2.0	1700	19500	55	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	VFR 185 _90	90	53	10.0	3200	4.6	1700	19500	73	5.6	3500	2.9	1700	19500	71	185
	VFR 185 _120	120	43	7.5	3800	4.5	1700	19500	66	4.2	4200	2.9	1700	19500	63	
	VFR 185 _150	150	40	6.0	3400	3.4	1700	19500	63	3.3	3700	2.2	1700	19500	60	
	VFR 185 _180	180	38	5.0	3300	2.9	1700	19500	60	2.8	3600	1.8	1700	19500	57	
	VFR 185 _240	240	32	3.8	2800	2.0	1700	19500	54	2.1	2900	1.2	1700	19500	53	
	VFR 185 _300	300	29	3.0	2400	1.5	1700	19500	50	1.7	2500	0.91	1700	19500	48	

(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)

W/VF 86/185

4400 Nm

	i	η_s %	n_{2} min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_{2} min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
			n_1= 1400 min^{-1}						n_1 = 900 min^{-1}						
W/VF 86/185	**W/VF 86/185_280**	280	31	5.0	4200	4.2	850	19500	52	3.2	4400	3.0	850	19500	49	186
	W/VF 86/185_400	400	29	3.5	4200	3.2	850	19500	48	2.3	4400	2.3	850	19500	45	
	W/VF 86/185_600	600	26	2.3	4200	2.3	850	19500	45	1.5	4400	1.6	850	19500	43	
	W/VF 86/185_800	800	26	1.8	4200	1.8	850	19500	43	1.1	4400	1.3	850	19500	40	
	W/VF 86/185_920	920	26	1.5	4200	1.6	850	19500	42	1.0	4400	1.2	850	19500	38	
	W/VF 86/185_1200	1200	20	1.2	4200	1.5	850	19500	34	0.75	4400	0.99	850	19500	35	
	W/VF 86/185_1600	1600	20	0.88	4200	1.1	850	19500	35	0.56	4400	0.79	850	19500	33	
	W/VF 86/185_1840	1840	19	0.76	4200	0.98	850	19500	34	0.49	4400	0.70	850	19500	32	
	W/VF 86/185_2560	2560	16	0.55	4200	0.83	850	19500	29	0.35	4400	0.60	850	19500	27	
	W/VF 86/185_3200	3200	15	0.44	4200	0.80	850	19500	24	0.28	4400	0.59	850	19500	22	



VF 210 - VFR 210

5000 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VF 210	VF 210_7	7	71	400	1725	79	5300	14000	91	200	2300	54	5300	16700	90	184
	VF 210_10	10	69	280	1988	65	5300	16300	90	140	2650	44	5300	19500	89	
	VF 210_15	15	63	187	2138	47	5300	19700	89	93	2850	32	5300	23700	88	
	VF 210_20	20	57	140	2325	39	4970	22000	87	70	3100	27	1100	26600	85	
	VF 210_30	30	51	93	2288	26	5300	25900	85	47	3050	18.5	1760	31500	83	
	VF 210_40	40	42	70	2625	23	—	28300	81	35	3500	17.0	—	31500	78	
	VF 210_50	50	39	56	2475	18.4	—	31000	79	28.0	3300	13.0	—	31500	76	
	VF 210_60	60	36	47	2363	15.0	—	31500	77	23.3	3015	10.0	—	31500	73	
	VF 210_80	80	31	35	2175	10.9	—	31500	73	17.5	2900	7.7	—	31500	69	
	VF 210_100	100	27	28	2025	8.5	950	31500	70	14.0	2700	6.0	—	31500	65	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	VF 210_7	7	71	129	2700	41	5300	18800	89	71	3400	29	5300	21800	88	184
	VF 210_10	10	69	90	3150	34	5300	21900	88	50	3800	23	5300	26000	87	
	VF 210_15	15	63	60	3300	24	5300	27000	86	33	4100	17.2	5300	31800	84	
	VF 210_20	20	57	45	3800	22	—	29900	83	25.0	4700	15.4	—	34500	81	
	VF 210_30	30	51	30.0	3400	13.4	3750	33000	80	16.7	4000	9.3	5300	34500	77	
	VF 210_40	40	42	22.5	4300	13.5	—	33000	75	12.5	5000	9.4	—	34500	71	
	VF 210_50	50	39	18.0	4000	10.5	—	33000	72	10.0	4500	7.1	—	34500	68	
	VF 210_60	60	36	15.0	3720	8.5	—	33000	70	8.3	4300	6.0	—	34500	65	
	VF 210_80	80	31	11.3	3300	6.0	—	33000	65	6.3	3900	4.4	—	34500	60	
	VF 210_100	100	27	9.0	3000	4.6	—	33000	61	5.0	3400	3.4	1470	34500	56	

6300 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VFR 210	VFR 210 _30	30	68	93	3150	36	1800	22100	87	47	3800	21.8	2200	27400	86	185
	VFR 210 _45	45	62	62	3300	25	1800	27000	85	31	4100	16.2	2200	33200	83	
	VFR 210 _60	60	56	47	3800	22	1800	29900	82	23.0	4700	14.5	2200	34500	80	
	VFR 210 _90	90	50	31	3400	14.1	1800	33000	79	15.6	4000	8.6	2200	34500	76	
	VFR 210 _120	120	41	23.3	4300	14.3	1800	33000	74	11.7	5000	8.8	2200	34500	70	
	VFR 210 _150	150	38	18.7	4000	11.1	1800	33000	71	9.3	4500	6.6	2200	34500	67	
	VFR 210 _180	180	35	15.6	3720	8.8	1800	33000	69	7.8	4300	5.5	2200	34500	64	
	VFR 210 _240	240	30	11.7	3300	6.3	1800	33000	64	5.8	3900	4.1	2200	34500	59	
	VFR 210 _300	300	26	9.3	3000	4.9	1800	33000	60	4.7	3400	3.0	2200	34500	55	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
	VFR 210 _30	30	68	30.0	4800	18.1	2300	30100	84	16.7	5500	11.8	2650	34500	82	185
	VFR 210 _45	45	62	20.0	4900	12.9	2300	34500	80	11.1	5600	8.4	2650	34500	78	
	VFR 210 _60	60	56	15.0	5400	11.1	2300	34500	77	8.3	6000	7.1	2650	34500	74	
	VFR 210 _90	90	50	10.0	4600	6.7	2300	34500	72	5.6	5150	4.3	2650	34500	70	
	VFR 210 _120	120	41	7.5	5900	7.1	2300	34500	66	4.2	6300	4.4	2650	34500	63	
	VFR 210 _150	150	38	6.0	5300	5.4	2300	34500	62	3.3	5900	3.5	2650	34500	59	
	VFR 210 _180	180	35	5.0	4900	4.4	2300	34500	59	2.8	5400	2.8	2650	34500	56	
	VFR 210 _240	240	30	3.8	4400	3.2	2300	34500	54	2.1	4800	2.1	2650	34500	50	
	VFR 210 _300	300	26	3.0	3600	2.3	2300	34500	49	1.7	4000	1.5	2650	34500	46	

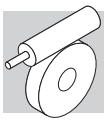
(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)

VF/VF 130/210

6500 Nm

	i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
			n_1= **1400** min^{-1}						n_1 = **900** min^{-1}						
VF/VF 130/210	**VF/VF 130/210_280**	280	30	5.0	6300	6.3	1500	34500	52	3.2	6500	4.4	1500	34500	50	186
	VF/VF 130/210_400	400	28	3.5	6300	4.6	1500	34500	50	2.3	6500	3.2	1500	34500	48	
	VF/VF 130/210_600	600	26	2.3	6300	3.6	1500	34500	43	1.5	6500	2.4	1500	34500	43	
	VF/VF 130/210_800	800	25	1.8	6300	2.8	1500	34500	41	1.1	6500	2.0	1500	34500	38	
	VF/VF 130/210_920	920	24	1.5	6300	2.7	1500	34500	37	1.0	6500	1.9	1500	34500	35	
	VF/VF 130/210_1200	1200	21	1.2	6300	2.2	—	34500	35	0.75	6500	1.5	—	34500	34	
	VF/VF 130/210_1600	1600	18	0.88	6300	1.8	—	34500	32	0.56	6500	1.2	—	34500	32	
	VF/VF 130/210_1840	1840	19	0.76	6300	1.7	—	34500	30	0.49	6500	1.2	490	34500	28	
	VF/VF 130/210_2560	2560	16	0.55	6300	1.5	1220	34500	24	0.35	6500	1.0	1500	34500	24	
	VF/VF 130/210_3200	3200	15	0.44	6300	1.3	1500	34500	22	0.28	6500	0.96	1500	34500	20	

(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)



VF 250 - VFR 250

7100 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VF 250	VF 250_7	7	71	400	2400	109	7000	18300	92	200	3200	75	7000	21900	91	184
	VF 250_10	10	69	280	2775	89	7000	21100	91	140	3700	61	7000	25300	90	
	VF 250_15	15	64	187	3000	65	7000	25100	90	93	4000	45	7000	30300	88	
	VF 250_20	20	59	140	3338	56	7000	28000	88	70	4450	38	7000	33900	86	
	VF 250_30	30	53	93	3000	34	7000	33400	86	47	4000	23	7000	40600	84	
	VF 250_40	40	41	70	3600	32	4680	36200	82	35	4800	22	—	44000	79	
	VF 250_50	50	36	56	3375	25	6370	39500	79	28.0	4500	17.0	—	47000	76	
	VF 250_60	60	38	47	3375	20.6	7000	42100	80	23.3	4500	15.0	—	47000	76	
	VF 250_80	80	32	35	2925	14.1	7000	47000	76	17.5	3900	10.0	—	47000	71	
	VF 250_100	100	29	28	2738	11.0	7000	47000	73	14.0	3650	7.8	3010	47000	68	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
VF 250	VF 250_7	7	71	129	4150	63	7000	23700	90	71	5200	44	7000	27600	88	184
	VF 250_10	10	69	90	4800	51	7000	27600	89	50	6000	36	7000	32300	87	
	VF 250_15	15	64	60	5300	39	7000	33200	87	33	6400	27	7000	39500	85	
	VF 250_20	20	59	45	5950	33	1640	37200	85	25.0	7100	24	1910	44400	82	
	VF 250_30	30	53	30.0	5500	21	7000	44900	81	16.7	6000	14.7	7000	52000	79	
	VF 250_40	40	41	22.5	6500	20.0	—	48800	76	12.5	7000	13.6	—	52000	72	
	VF 250_50	50	36	18.0	6200	16.2	—	50000	73	10.0	6500	11.1	—	52000	68	
	VF 250_60	60	38	15.0	5600	12.2	—	50000	72	8.3	6300	8.6	4350	52000	68	
	VF 250_80	80	32	11.3	5200	9.3	—	50000	67	6.3	5400	6.8	7000	52000	62	
	VF 250_100	100	29	9.0	4800	7.2	3010	50000	63	5.0	5000	5.3	4160	52000	58	

9000 Nm

		i	η_s %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	η_d %	
				n_1= 2800 min^{-1}						n_1 = 1400 min^{-1}						
VFR 250	VFR 250 _30	30	68	93	4800	54	2800	27800	89	47	6000	34	3500	34000	86	185
	VFR 250 _45	45	63	62	5300	41	2800	33300	87	31	6400	25	3500	41300	84	
	VFR 250 _60	60	58	47	5950	35	2800	37200	85	23.0	7100	21	3500	46100	81	
	VFR 250 _90	90	52	31	5500	22	2800	44700	81	15.6	6000	12.6	3500	52000	78	
	VFR 250 _120	120	40	23.3	6500	21.3	2800	48500	76	11.7	7000	12.1	3500	52000	71	
	VFR 250 _150	150	35	18.7	6200	16.9	2800	50000	73	9.3	6500	9.5	3500	52000	67	
	VFR 250 _180	180	37	15.6	5600	12.9	2800	50000	72	7.8	6300	7.7	3500	52000	67	
	VFR 250 _240	240	31	11.7	5200	9.7	2800	50000	67	5.8	5400	5.4	3500	52000	61	
	VFR 250 _300	300	28	9.3	4800	7.6	2800	50000	63	4.7	5000	4.3	3500	52000	57	
				n_1= 900 min^{-1}						n_1 = 500 min^{-1}						
VFR 250	VFR 250 _30	30	68	30.0	6500	24	3700	39600	84	16.7	7600	16.1	4200	47600	83	185
	VFR 250 _45	45	63	20.0	6800	17.5	3700	48000	82	11.1	7900	11.6	3500	52000	80	
	VFR 250 _60	60	58	15.0	7600	15.2	3700	52000	79	8.3	8600	9.9	3500	52000	76	
	VFR 250 _90	90	52	10.0	6500	9.3	3700	52000	74	5.6	7400	6.1	3500	52000	71	
	VFR 250 _120	120	40	7.5	7500	8.8	3700	52000	67	4.2	9000	6.2	3500	52000	64	
	VFR 250 _150	150	35	6.0	7000	7.0	3700	52000	63	3.3	8600	5.1	3500	52000	59	
	VFR 250 _180	180	37	5.0	6700	5.7	3700	52000	62	2.8	7600	3.8	3500	52000	59	
	VFR 250 _240	240	31	3.8	5800	4.1	3700	52000	56	2.1	6500	2.7	3500	52000	52	
	VFR 250 _300	300	28	3.0	5300	3.2	3700	52000	52	1.7	6000	2.2	3500	52000	48	

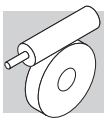
(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)

VF/VF 130/250

9200 Nm

			n_2	M_{n2}	P_{n1}	R_{n1}	R_{n2}	η_d	n_2	M_{n2}	P_{n1}	R_{n1}	R_{n2}	η_d	
		η_s	min^{-1}	Nm	kW	N	N	%	min^{-1}	Nm	kW	N	N	%	
	i	%	n_1= 1400 min^{-1}						n_1 = 900 min^{-1}						
VF/VF 130/250	VF/VF 130/250_280	280	29	5.0	9000	8.9	1500	52000	53	3.2	9200	6.1	1500	52000	51	
	VF/VF 130/250_400	400	27	3.5	9000	6.7	1500	52000	49	2.3	9200	4.6	1500	52000	47	
	VF/VF 130/250_600	600	26	2.3	9000	5.0	1500	52000	44	1.5	9200	3.4	1500	52000	43	
	VF/VF 130/250_800	800	24	1.8	9000	3.9	1500	52000	42	1.1	9200	2.7	1500	52000	40	
	VF/VF 130/250_920	920	23	1.5	9000	3.9	1500	52000	37	0.98	9200	2.7	1500	52000	35	186
	VF/VF 130/250_1200	1200	20	1.2	9000	3.1	—	52000	35	0.75	9200	2.2	—	52000	33	
	VF/VF 130/250_1600	1600	18	0.88	9000	2.6	—	52000	32	0.56	9200	1.8	—	52000	30	
	VF/VF 130/250_1840	1840	18	0.76	9000	2.3	—	52000	31	0.49	9200	1.6	490	52000	29	
	VF/VF 130/250_2560	2560	16	0.55	9000	2.1	1500	52000	25	0.35	9200	1.5	1500	52000	23	
	VF/VF 130/250_3200	3200	14	0.44	9000	2.0	1500	52000	21	0.28	9200	1.4	1500	52000	19	

(–) Interpellare il ns. servizio tecnico comunicando i dati relativi al carico radiale (senso di rotazione, orientamento, posizione)
(–) Contact our technical service department advising radial load data (rotation direction, load angle, offset)
(–) Nehmen Sie bitte Kontakt mit unserem Applikationsdienst und Querkraftsdaten angeben (Drehrichtung, Orientierung, Anordnung)
(–) Consulter notre service technique en donnant les détails concemant la charge radiale (sens de rotation, indexage, position)



22 - PREDISPOSIZIONI MOTORE

22.1 Motori standard IEC

Nelle tabelle vengono riportati gli abbinamenti motore possibili in termini puramente geometrici.
La scelta del motoriduttore deve essere effettuata seguendo le istruzioni specificate al paragrafo: "Selezione", rispettando in particolare la condizione $S \geq f_S$.

22 - MOTOR AVAILABILITY

22.1 Motors to IEC standard

Motor-gearbox combinations resulting from charts are purely based on geometrical compatibility.
When selecting a gearmotor, refer to procedure specified at para: "Selection" and observe particularly the condition $S \geq f_S$.

22 - MOTOR ANBAUMÖGLICHKEITEN

22.1 Motoren nach IEC-Standard

In den Tabellen werden die von den Größen her gesehenen möglichen Passungen angegeben.
Die angemessene Getriebewahl muss unter Befolgung der im Paragraph: „Antriebsauswahl" gegebenen Anleitungen und auf der Grundlage der Auswahltabelle der technischen Daten erfolgen.

22 - PREDISPOSITION MOTEUR

22.1 Moteurs standard IEC

Dans les tableaux sont indiqués les accouplements possibles en termes de dimensions.
Le choix le plus approprié du motoréducteur à utiliser doit être effectué selon les indications du paragraphe: "Sélection", ainsi qu'en fonction des tableaux de sélection, respectant en particulier la condition $S \geq f_S$.

IEC		VF 27	VF 30	VF 44	VF 49	W 63	W 75	W 86	W 110	VF 130	VF 150	VF 185	VF 210	VF 250
P27	-	7...70	-	-	-	-	-	-	-	-	-	-	-	-
P56	B5	-	7...70	-	-	-	-	-	-	-	-	-	-	-
	B14													
P63	B5	-	7...60	7...100	7...100	-	-	-	-	-	-	-	-	-
	B14													
P71	B5	-	-	7...35	7...60	7...100	7…100	7…100	-	-	-	-	-	-
	B14						-	-						
P80	B5	-	-	-	7...28	7...100	7...100	7…100	7…100	-	-	-	-	-
	B14													
P90	B5	-	-	-	-	7...30	7...100	7…100	7…100	46…100	-	-	-	-
	B14									-				
P100	B5	-	-	-	-	-	7...100	7…100	7…100	7…80	23…100	50…100	-	-
	B14									-	-	-		
P112	B5	-	-	-	-	-	7...100	7…100	7…100	7…40	23…100	50…100	-	-
	B14									-	-	-		
P132	B5	-	-	-	-	-	-	-	7…100	7…40 #	7…46	30…80	7…100	7…100
P160	B5	-	-	-	-	-	-	-	-	-	7…20 #	15…40	7…100	7…100
P180	B5	-	-	-	-	-	-	-	-	-	-	7…20 #	7…100	7…100
P200	B5	-	-	-	-	-	-	-	-	-	-	-	7…100	7…100
P225	B5	-	-	-	-	-	-	-	-	-	-	-	7…100	7…100

IEC		VFR 44	VFR 49	WR 63	WR 75	WR 86	WR 110	VFR 130	VFR 150	VFR 185	VFR 210	VFR 250
S44	-	70...500	-	-	-	-	-	-	-	-	-	-
P63	B5	-	30...300	21...300	21...300	21...300	-	-	-	-	-	-
P71	B5	-	-	21...300	21...300	21...300	21...300	-	-	-	-	-
P80	B5	-	-	-	21...300	21...300	21...300	30...300	-	-	-	-
P90	B5	-	-	-	15...150	15...150	21...300	30...300	30...300	30...300	-	-
P100	B5	-	-	-	-	-	21...300	30...300 #	30...300	30...300	30...300	30...300
P112	B5	-	-	-	-	-	21...300	30...300 #	30...300	30...300	30...300	30...300
P132	B5	-	-	-	-	-	-	-	25...50 #	25...100 #	30...300	30...300
P160	B5	-	-	-	-	-	-	-	-	-	30...300 #	30...300 #

Rapporto della precoppia elicoidale i = 1.5

Gear ratio of the helical pre-stage i = 1.5

Untersetzung der Vorstufe i = 1.5

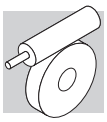
Rapport de l'étage à l'entrée hélicöidal i = 1.5

Gli accoppiamenti motore-riduttore marcati con [#] sono realizzati tramite linguette di tipo ribassato, fornite insieme al riduttore stesso.

 # Motor-gearbox combinations marked with [#] feature a lowered key, supplied with the reducer.

Motorgetriebe-Kombinationen durch [#] gekennzeichnet und werden mit abgeflachten Keilnut entwickelt, die gemeinsam mit den Getriebe geliefert werden.

 # Les accouplements repérés par [#] sont dotés d'une clavette à hauteur réduite, livrées avec le réducteur.



IEC		VF/VF 30/44	VF/VF 30/49	VF/W 30/63	VF/W 44/75	VF/W 44/86	VF/W 49/110	W/VF 63/130	W/VF 86/150	W/VF 86/185	VF/VF 130/210	VF/VF 130/250
P56	B5	245...2100	240...2700	240...2700								
	B14											
P63	B5	245...2100	240...2700	240...2700	250...2800	230...2760	230...2800					
	B14											
P71	B5				250...700	230...700	230...2400	280...3200	200...2944	280...3200		
	B14								-	-		
P80	B5						230...540	280...3200	200...2944	280...3200		
	B14											
P90	B5							280...1200	200...2944	280...3200	280...3200	280...3200
	B14										-	-
P100	B5								200...2944	280...3200	280...3200	280...3200
	B14										-	-
P112	B5								200...2944	280...3200	280...3200	280...3200
	B14										-	-
P132	B5										280...1600 #	280...1600 #

Gli accoppiamenti motore-riduttore marcati con [#] sono realizzati tramite linguette di tipo ribassato, fornite insieme al riduttore stesso.

 # Motor-gearbox combinations marked with [#] feature a lowered key, supplied with the reducer.

Motorgetriebe-Kombinationen durch [#] gekennzeichnet und werden mit abgeflachten Keilnut entwicklet, die gemeinsam mit den Getriebe geliefert werden.

 # Les accouplements repérés par [#] sont dotés d'une clavette à hauteur réduite, livrées avec le réducteur.

22.2 Motori compatti

22.2 Compact motor

22.2 Kompaktmotor

22.2 Moteur compact

	M1	M2	M3
W 63	7 ... 100	7 ... 100	⛔
W 75	7 ... 100	7 ... 100	7 ... 100
W 86	7 ... 100	7 ... 100	7 ... 100
W 110	⛔	7 ... 100	7 ... 100

	M1	M2	M3
W/VF 63/130	280 ... 3200	280 ... 3200	⛔
W/VF 86/150	200 ... 2944	200 ... 2944	200 ... 2944
W/VF 86/185	280 ... 3200	280 ... 3200	280 ... 3200

22.3 Motori non normalizzati

Per l'accoppiamento a motori elettrici non normalizzati, l'interfaccia motore dei riduttori serie W può essere configurata con combinazioni albero veloce/flangia ibride, non corrispondenti cioè alla normativa IEC.
La combinazione albero/flangia è esplicitata mediante i rispettivi diametri e qui di seguito esemplificata.

22.3 Motors not to IEC standard

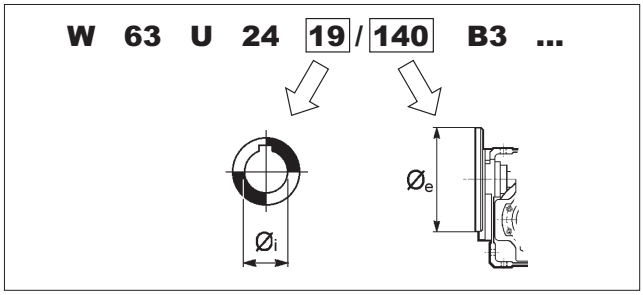
For coupling with non-normalized electric motors, the motor coupling end of W speed reducers may be configured with hybrid (i.e., non IEC) input shaft and flange combinations.
Shaft and flange combinations are illustrated below.
The table shows the diameters in millimetres for each selection.

22.3 Nicht genormte Motoren

Für die Passung an nicht genormte Elektromotoren kann die Schnittstelle des Motors der zu den Serien W gehörenden Getriebe mit der Kombination Antriebswelle/ Hybridflansch konfiguriert werden, die jedoch nicht der Richtlinie IEC entspricht.
Die Kombination von Welle/ Flansch wird durch die jeweiligen Durchmesser gegeben und nachstehend aufgeführt.

22.3 Moteurs non normalisés

Pour l'accouplement à des moteurs électriques non normalisés, l'interface moteur des réducteurs série W peut être configurée avec des combinaisons arbre d'entrée/bride hybrides, c'est-à-dire ne répondant à la norme CEI.
La combinaison arbre/bride est exprimée au moyen des diamètres respectifs et sur la représentation simplifiée ci-après.

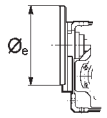


Gli abbinamenti albero/flangia disponibili, e i rapporti di trasmissione ai quali sono limitati, sono riportati nella tabella seguente.

The following table lists available configurations, as well as their limited ranges of gear ratios.

Die verfügbaren Kombinationen von Welle/Flansch und die Übersetzungsverhältnisse, auf die sie jeweils beschränkt sind, werden in den nachstehenden Tabelle angegeben.

Les associations arbre/bride disponibles ainsi que les rapports de transmission auxquelles elles sont limitées sont exprimées dans les tableaux suivants.



		 Øi						
		80	**90**	**105**	**120**	**140**	**160**	**200**
VF 30	**9**		7 ≤ i ≤ 70	⛔		7 ≤ i ≤ 70	⛔	⛔
	11	7 ≤ i ≤ 60		⛔	7 ≤ i ≤ 60		⛔	⛔
VF 44	**HS**	⛔	7 ≤ i ≤ 100	7 ≤ i ≤ 100	⛔	7 ≤ i ≤ 100	7 ≤ i ≤ 100	⛔
	11	⛔		7 ≤ i ≤ 100	⛔		7 ≤ i ≤ 100	⛔
	14	⛔	7 ≤ i ≤ 35		⛔	7 ≤ i ≤ 35		⛔
VF 49	**HS**	⛔	7 ≤ i ≤ 100	7 ≤ i ≤ 100	7 ≤ i ≤ 100	7 ≤ i ≤ 100	7 ≤ i ≤ 100	7 ≤ i ≤ 100
	11	⛔		7 ≤ i ≤ 100	7 ≤ i ≤ 100		7 ≤ i ≤ 100	7 ≤ i ≤ 100
	14	⛔	7 ≤ i ≤ 60		7 ≤ i ≤ 60	7 ≤ i ≤ 60		7 ≤ i ≤ 60
	19	⛔	7 ≤ i ≤ 28	7 ≤ i ≤ 28		7 ≤ i ≤ 28	7 ≤ i ≤ 28	
W 63	**19**	⛔	⛔	⛔	⛔	7 ≤ i ≤ 100	⛔	
W 75	**14**	⛔	⛔	⛔	⛔	⛔		7 ≤ i ≤ 100
	19	⛔	⛔	⛔		7 ≤ i ≤ 100	7 ≤ i ≤ 100	
	24	⛔	⛔	⛔	7 ≤ i ≤ 100		7 ≤ i ≤ 100	
W 86	**14**	⛔	⛔	⛔	⛔	⛔		7 ≤ i ≤ 100
	19	⛔	⛔	⛔		7 ≤ i ≤ 100	7 ≤ i ≤ 100	
	24	⛔	⛔	⛔	7 ≤ i ≤ 100		7 ≤ i ≤ 100	
W 110	**19**	⛔	⛔	⛔		7 ≤ i ≤ 100	⛔	⛔
	24	⛔	⛔	⛔	7 ≤ i ≤ 100		⛔	⛔

Abbinamenti standard — *Standard arrangement* — Standard-Passung — *Couplage standard*

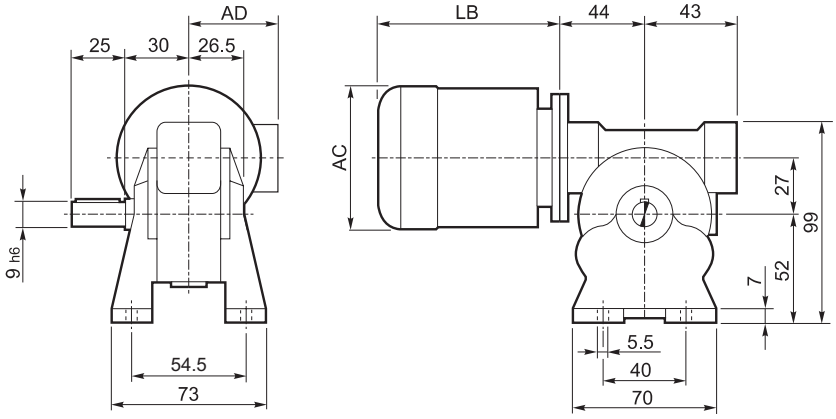
Alcuni abbinamenti ibridi albero/flangia sono eseguibili anche per riduttori VF di interasse 130 e superiore. In questo caso consultare il Servizio Tecnico di Bonfiglioli per la disponibilità.
Le configurazioni risultanti dalla tabella sopra riportata sono da intendersi possibili esclusivamente per quanto riguarda la compatibilità geometrica.
La compatibilità meccanica dell'insieme motore/riduttore dovrà essere ulteriormente verificata mediante l'uso delle consuete tabelle di selezione per potenza/velocità. In particolare dovranno essere evitati gli abbinamenti motore che generano fattori di sicurezza S < 0.9.

Some hybrid shaft/flange combinations are also possible for VF reduction units with center distance greater than 130 mm. Please contact Bonfiglioli Technical Service.
The table above report possible configurations strictly based on geometric criteria.
To determine the compatibility of a motor-gear unit assembly in terms of mechanical factors, double-check the selected configuration against the rating charts for power/speed.
Be sure to avoid those combinations that yield a safety factor S < 0.9.

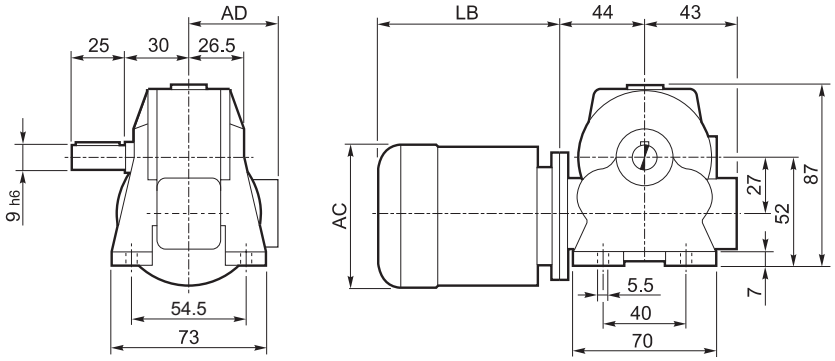
Einige Hybridkombinationen von Welle/Flansch sind auch bei den Getrieben VF mit einem Achsenabstand von 130 und mehr realisierbar. In diesem Fall bitten wir Sie jedoch, sich hinsichtlich der Verfügbarkeit mit dem Technischen Service der Bonfiglioli in Verbindung zu setzen. Die aus den vorstehenden Tabelle resultierenden Konfigurationen sind, ausschließlich in Bezug auf die geometrische Kompatibilität, als Möglichkeiten zu verstehen. Die mechanische Kompatibilität der Einheit aus Motor-Getriebe muss anhand der üblichen Auswahltabellen im Hinblick auf Leistung/ Drehzahl geprüft werden. Insbesondere sind solche Motorpassungen zu vermeiden, die Sicherheitsfaktoren von S < 0.9 erzeugen.

Certaines associations hybrides arbre/bride sont aussi réalisable pour les réducteurs VF avec entraxe de 130 et plus. Dans ce cas, contacter le Service Technique Bonfiglioli pour connaître la disponibilité.
Les configurations résultant des tableaux ci-dessus sont possibles exclusivement du point de vue de la compatibilité géométrique.
La compatibilité mécanique de l'ensemble moteur-réducteur doit être ultérieurement vérifiée en utilisant les tableaux habituels de sélection par puissance/vitesse. Plus particulièrement, il convient d'éviter les associations moteur qui génèrent des facteurs de sécurité S < 0.9.

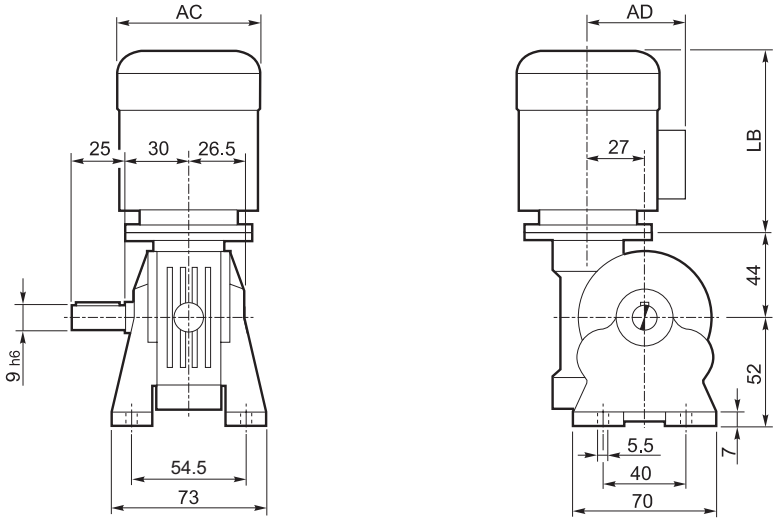
A


AD
25
30
26.5
9 h6
54.5
73
LB
44
43
AC
27
99
52
7
5.5
40
70

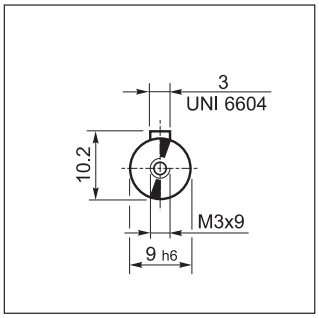
N


AD
25
30
26.5
9 h6
54.5
73
LB
44
43
AC
27
87
52
7
5.5
40
70

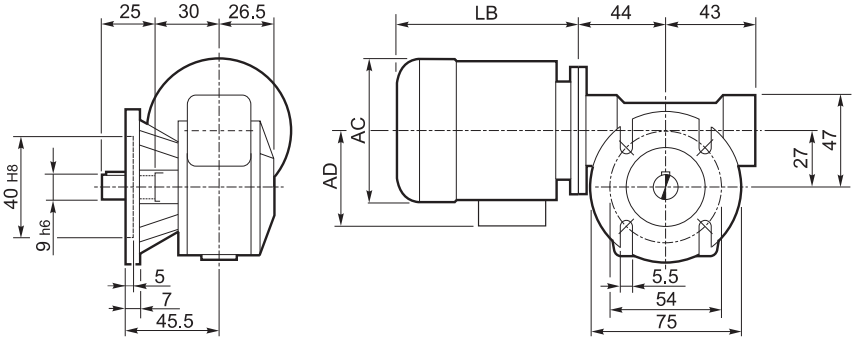
V

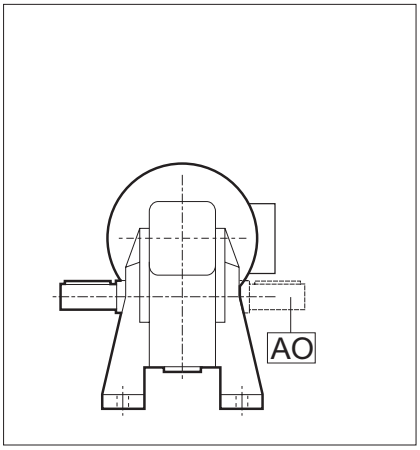

AC
25
30
26.5
9 h6
54.5
73
AD
27
LB
44
52
7
5.5
40
70

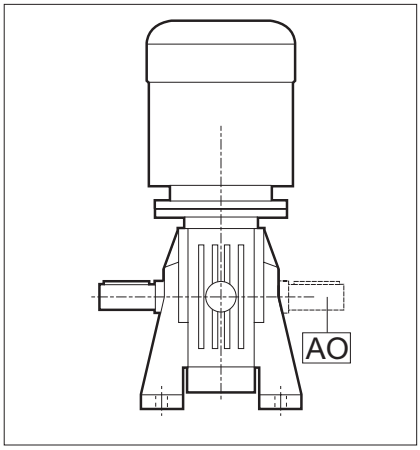
OUTPUT

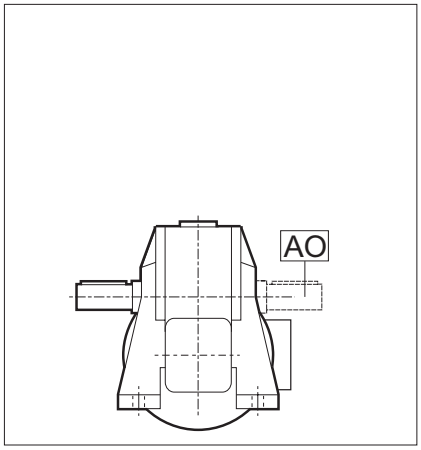

3
UNI 6604
10.2
M3x9
9 h6

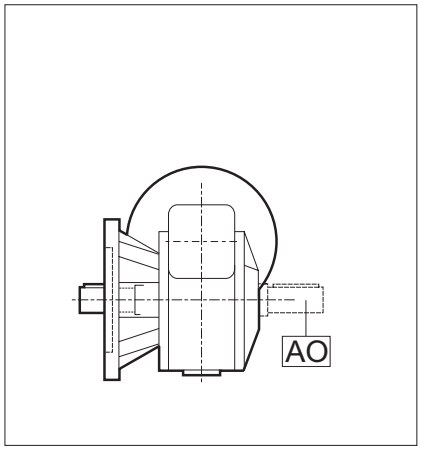
F

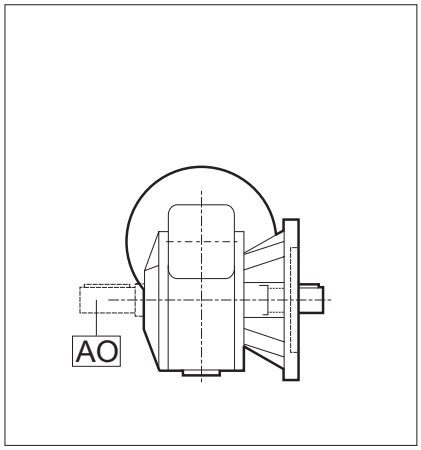

25
30
26.5
40 H8
9 h6
5
7
45.5
LB
44
43
AC
AD
27
47
5.5
54
75





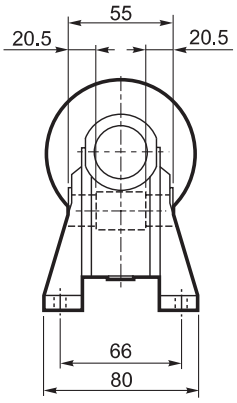


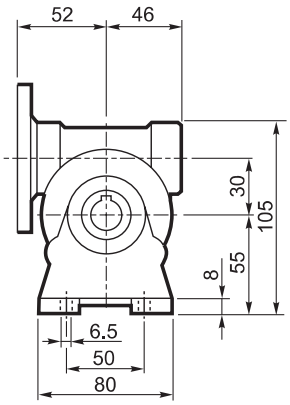




	VF 27													
	P_n kW	n min^{-1}	M_n Nm	η %	cosφ	In A (400V)	Is/In	Ms/Mn	Ma/Mn	Jm ($\cdot 10^{-4}$) kgm^2	Kg	LB	AC	AD
BN 27A4	0.04	1350	0.28	36	0.57	0.28	2.3	2.0	1.8	0.56	2.8	132	103	76
BN 27B4	0.06	1360	0.42	39	0.57	0.39	2.5	2.2	1.9	0.76	3.1	149	103	76
BN 27C4	0.09	1380	0.63	46	0.65	0.43	2.8	2.3	1.9	1.49	3.3	175	112	94

A





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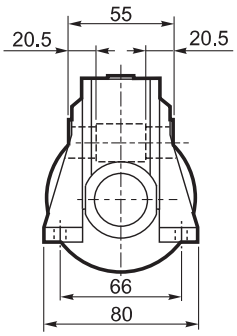
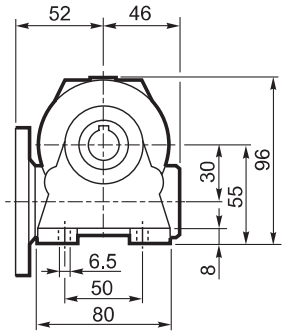
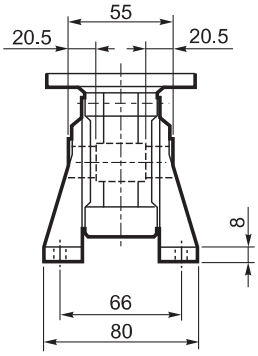
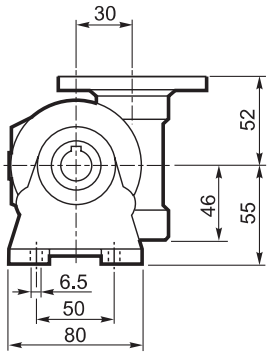


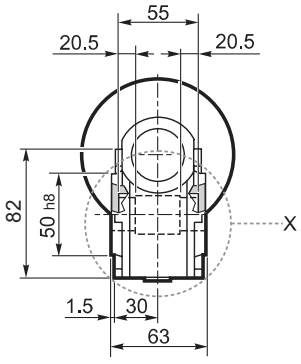


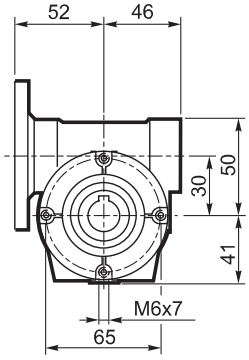
V



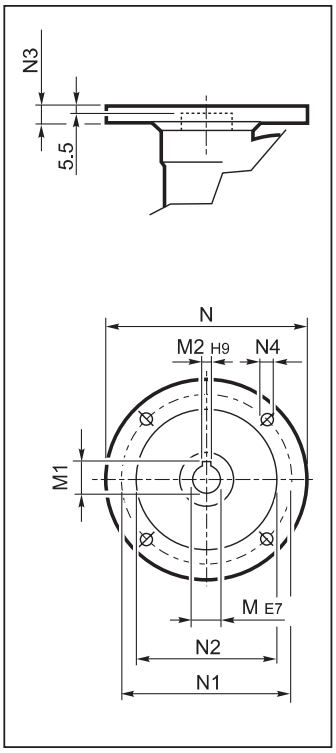


P





INPUT



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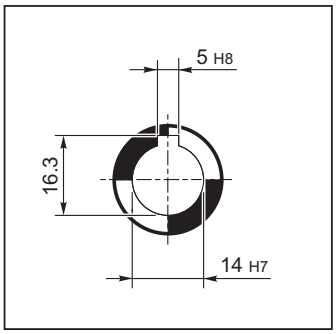
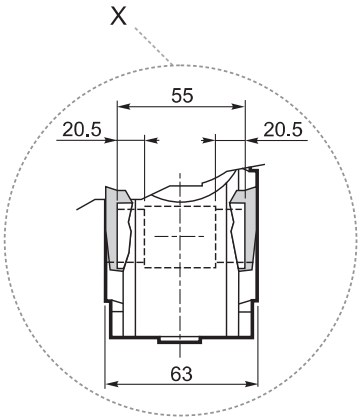
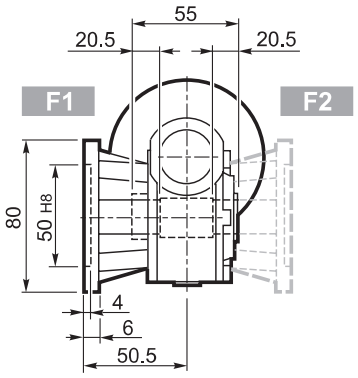
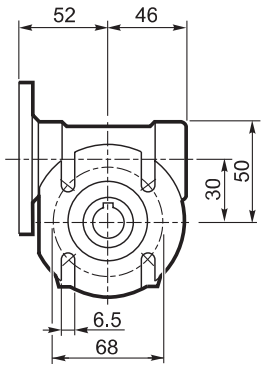




F_





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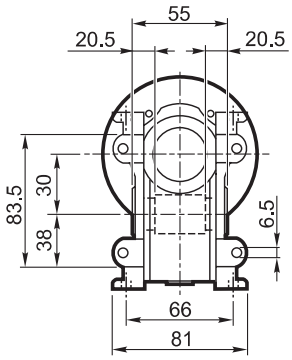
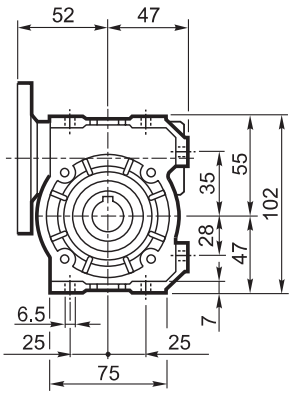
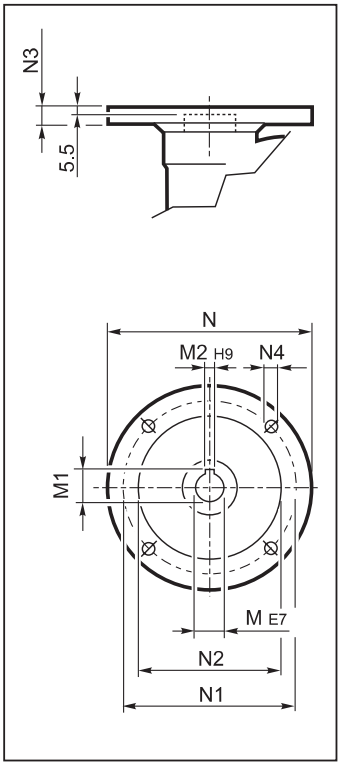
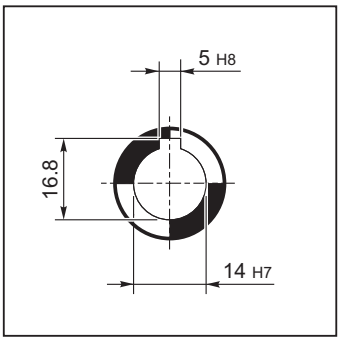




INPUT

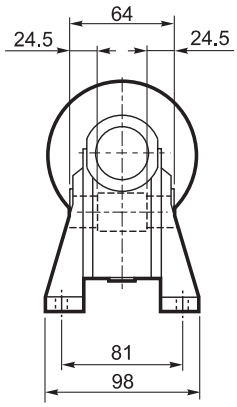


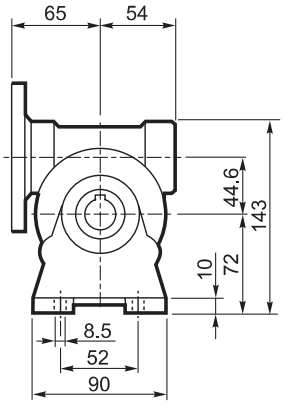
OUTPUT



VF 30										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VF 30	P56 B5	9	10.4	3	120	100	80	7	7	1.1
VF 30	P56 B14	9	10.4	3	80	65	50	7	5.5	
VF 30	P63 B5	11	12.8	4	140	115	95	8	9.5	
VF 30	P63 B14	11	12.8	4	90	75	60	6	5.5	

A





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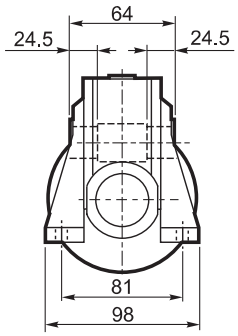

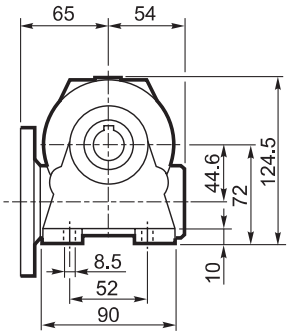

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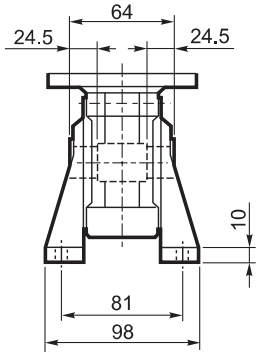

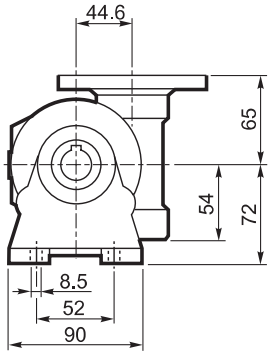

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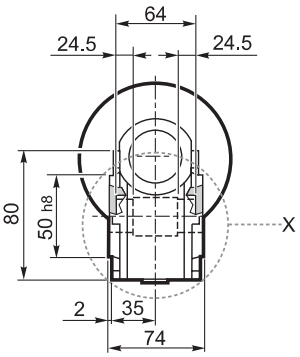

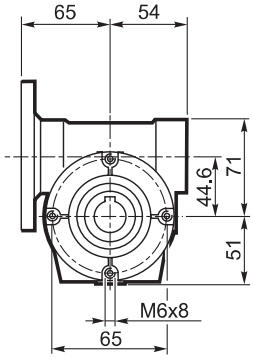

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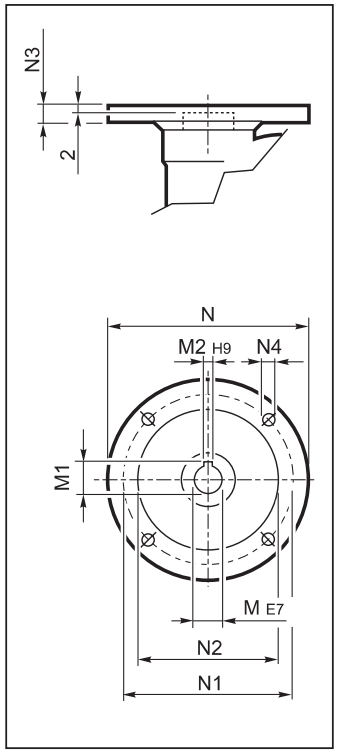

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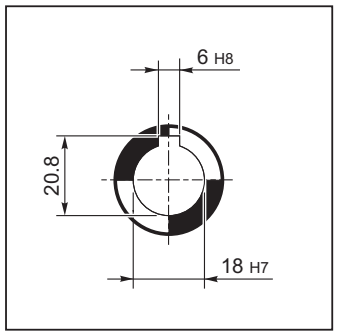

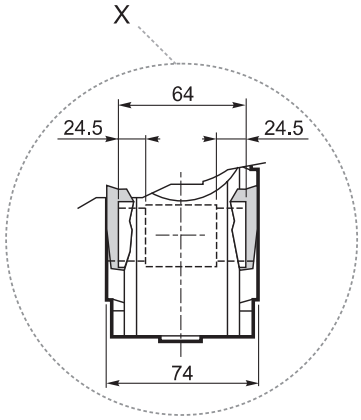

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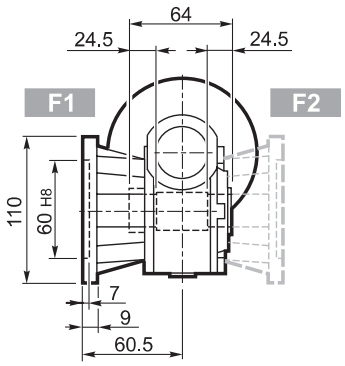

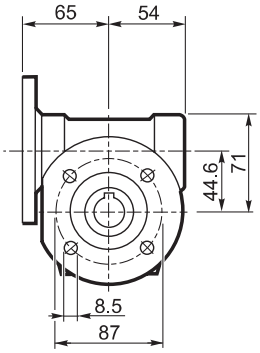

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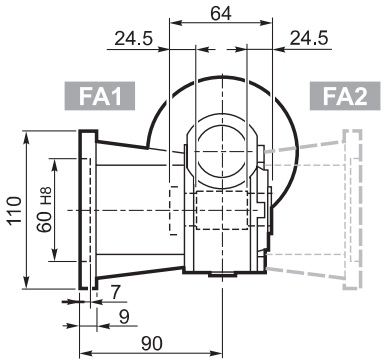

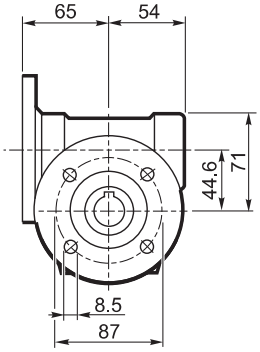

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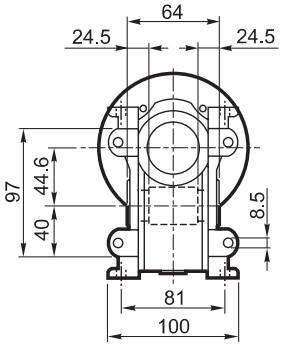
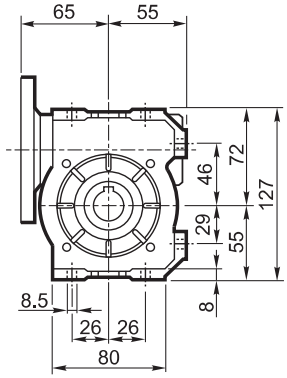
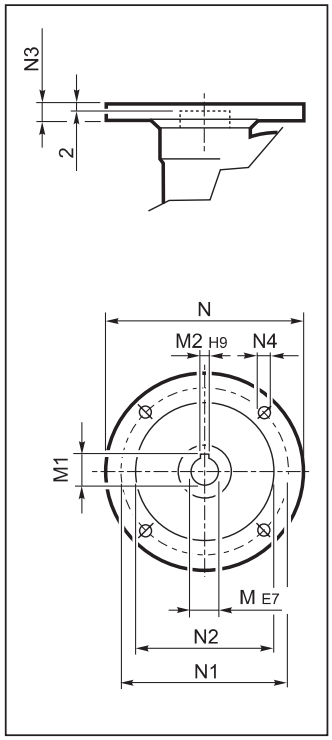




INPUT



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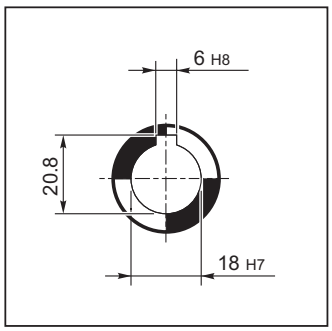
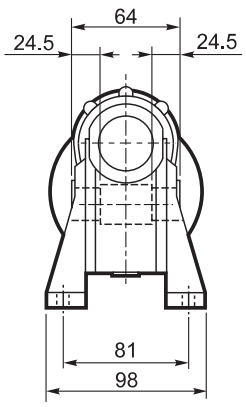
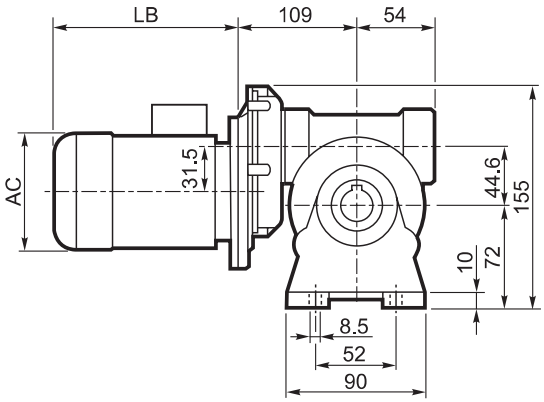
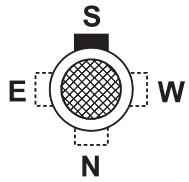


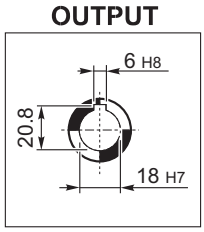
VF 44										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VF 44	P63 B5	11	12.8	4	140	115	95	10	9.5	2.0
VF 44	P71 B5	14	16.3	5	160	130	110	10	9.5	
VF 44	P63 B14	11	12.8	4	90	75	60	8	5.5	
VF 44	P71 B14	14	16.3	5	105	85	70	10	7	

A

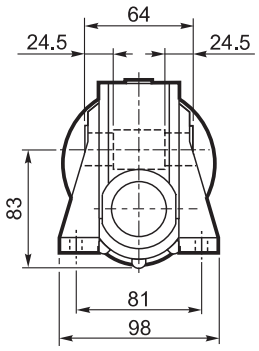

64
24.5
24.5
81
98

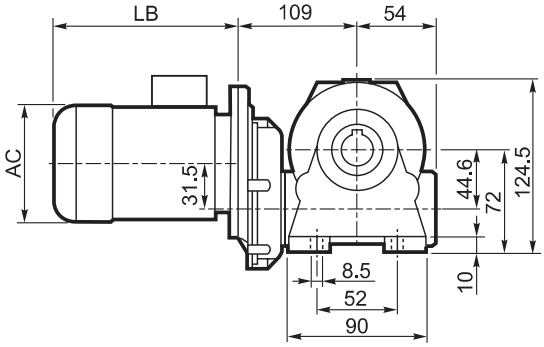

LB
109
54
AC
31.5
44.6
155
10
72
8.5
52
90

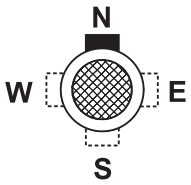

S
E
W
N


OUTPUT
6 H8
20.8
18 H7

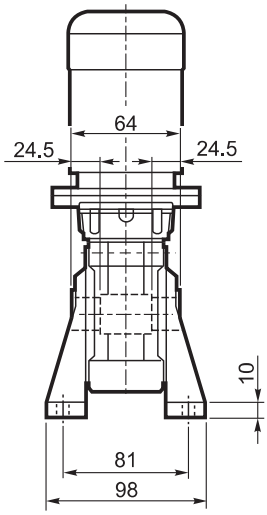
N

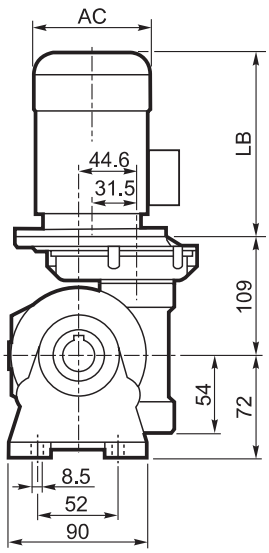

64
24.5
24.5
83
81
98

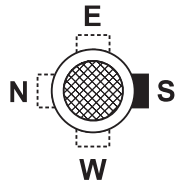

LB
109
54
AC
31.5
44.6
72
124.5
10
8.5
52
90

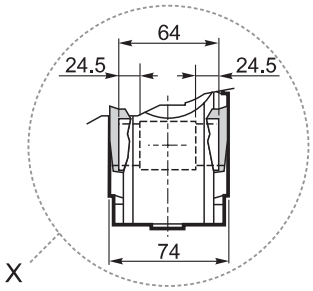

N
W
E
S

V

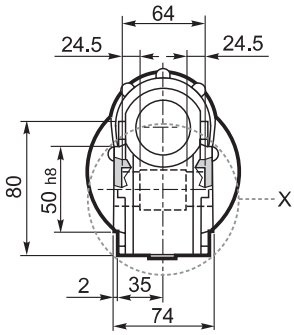

64
24.5
24.5
10
81
98

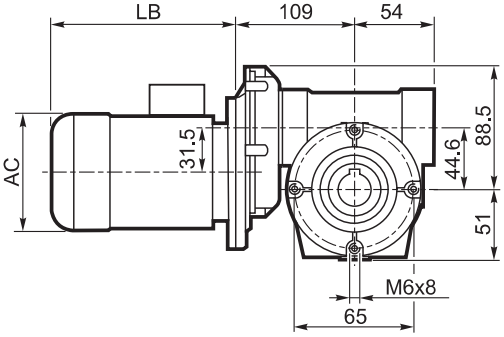

AC
LB
44.6
31.5
109
54
72
8.5
52
90

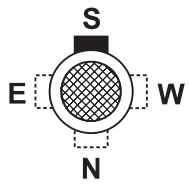

E
N
S
W


64
24.5
24.5
74
X

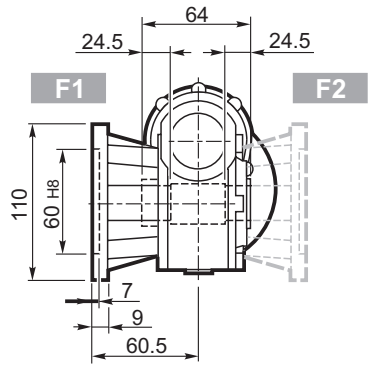
P

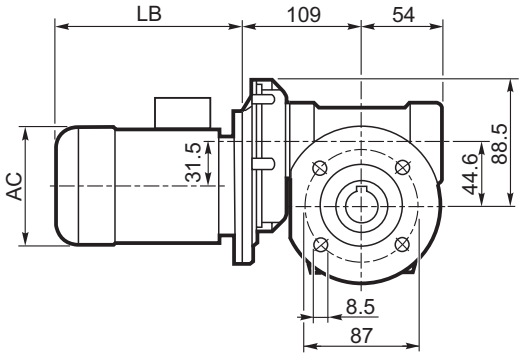

64
24.5
24.5
80
50 h8
X
2
35
74

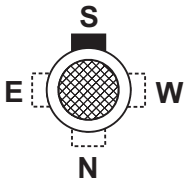

LB
109
54
AC
31.5
44.6
88.5
51
M6x8
65

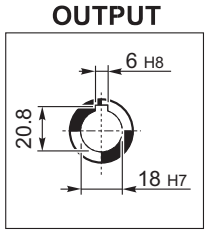

S
E
W
N

F_









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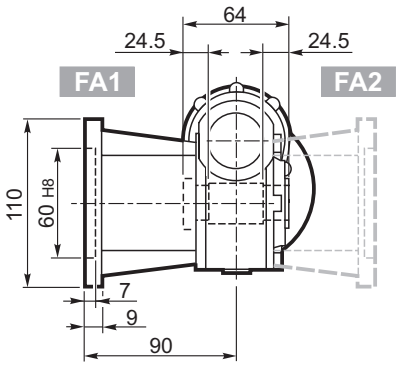

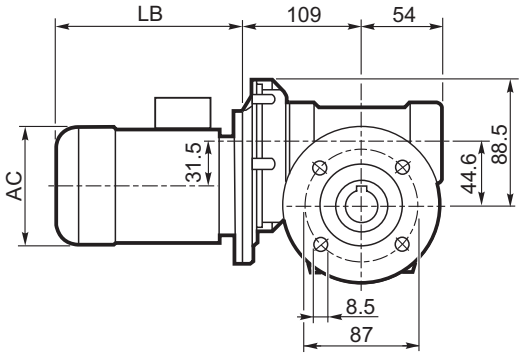

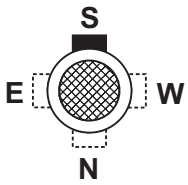

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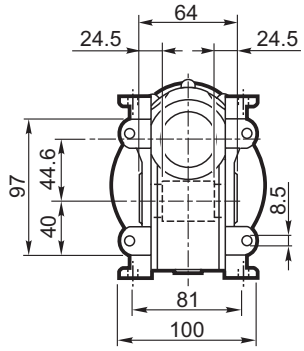
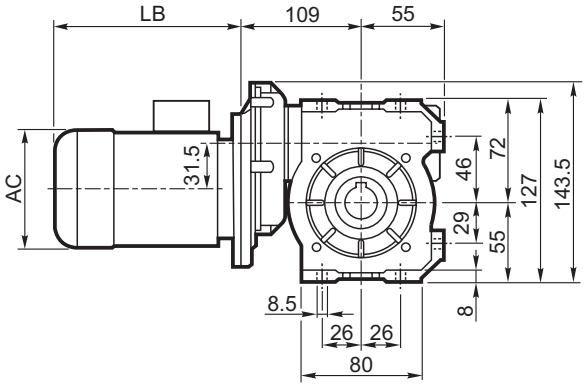
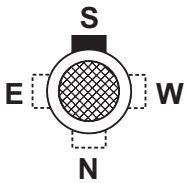
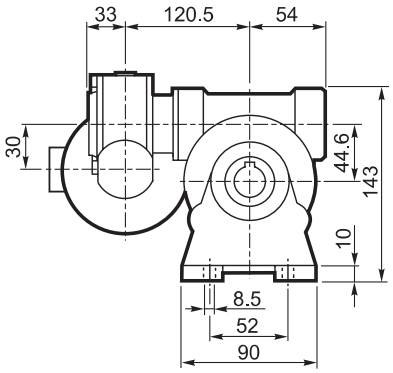


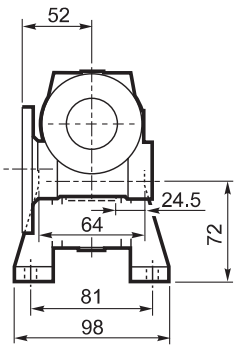




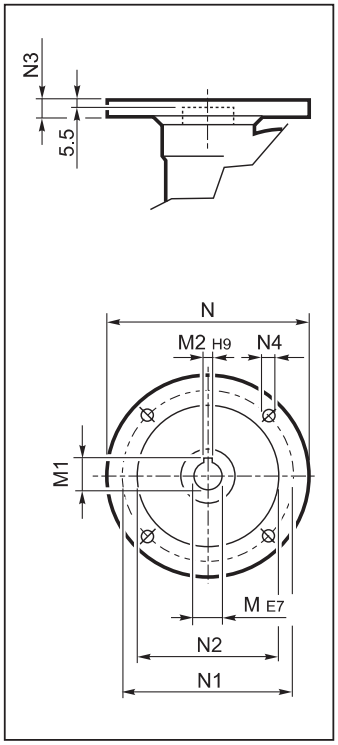
	VFR 44													
	P_n kW	n min^{-1}	M_n Nm	η %	cosφ	In A (400V)	Is / In	Ms / Mn	Ma / Mn	Jm ($\cdot 10^{-4}$) kgm^2	Kg	LB	AC	AD
BN 44B4	0.06	1380	0.42	40	0.58	0.38	2.4	2.3	1.9	1.22	4.7	168	112	94
BN 44C4	0.09	1380	0.63	46	0.65	0.43	2.8	2.3	2	1.49	4.6	168	112	94

A





INPUT



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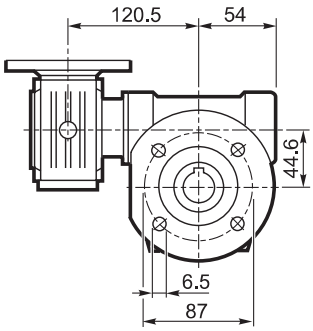
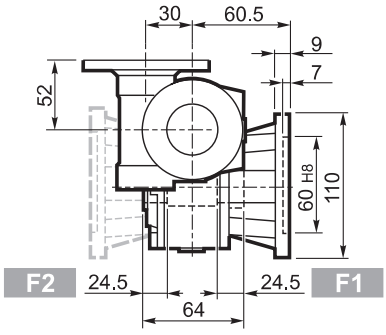
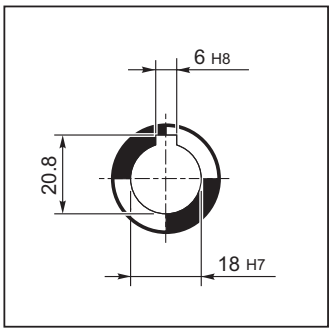
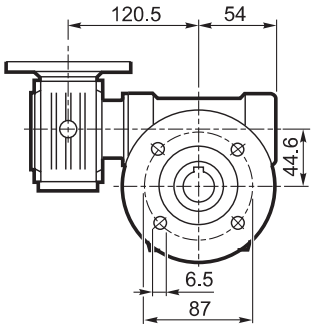


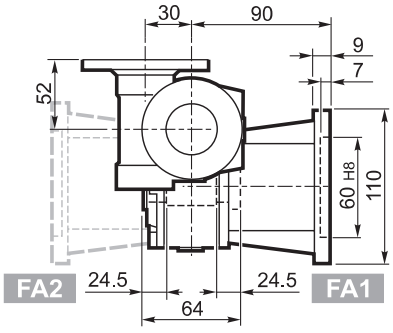


OUTPUT

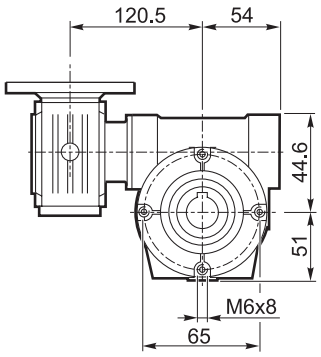


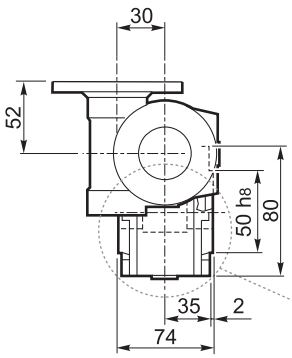
FA_

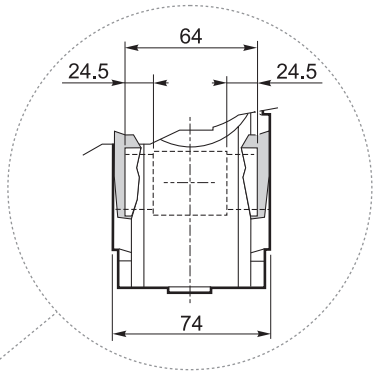




P







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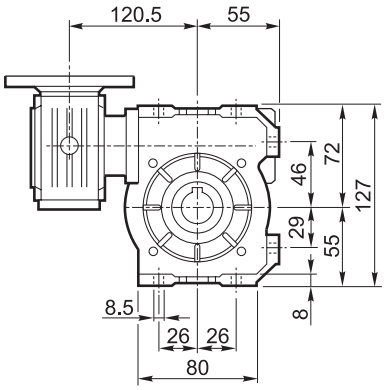

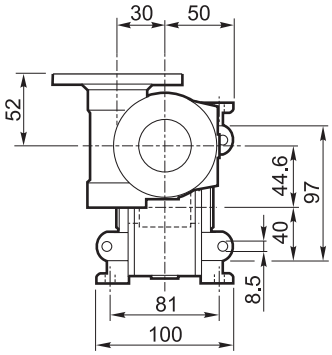

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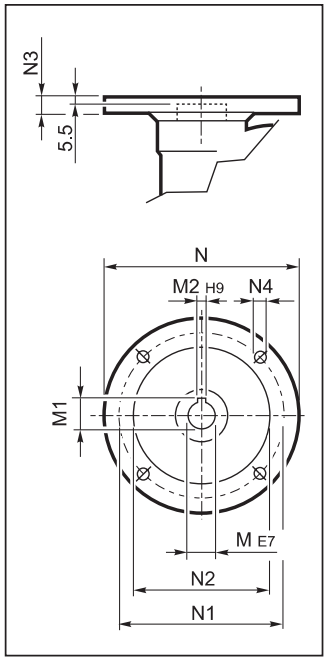
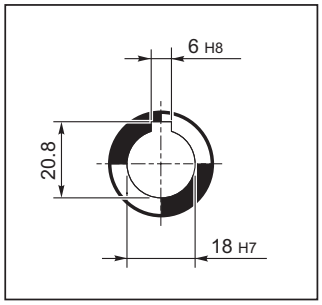
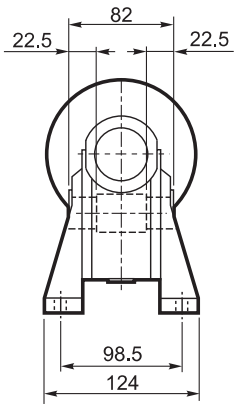


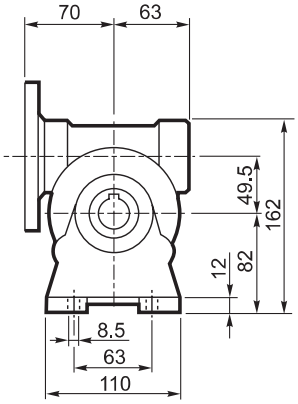
OUTPUT



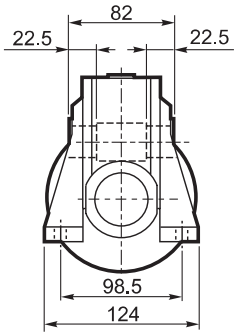
VF/VF 30/44										
		M	M1	M2	N	N1	N2	N3	N4	kg
VF/VF 30/44	P56 B14	9	10.4	3	80	65	50	7	5.5	3.5
VF/VF 30/44	P63 B14	11	12.8	4	90	75	60	6	5.5	

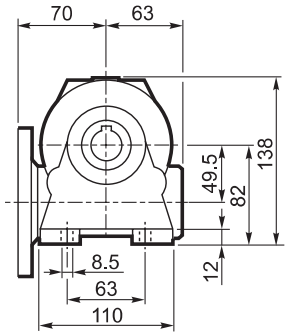
A



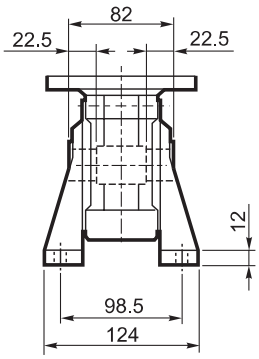


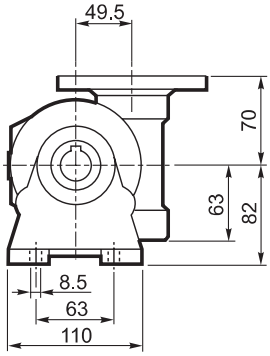
N



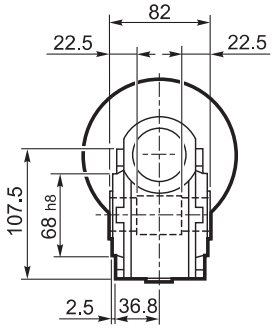


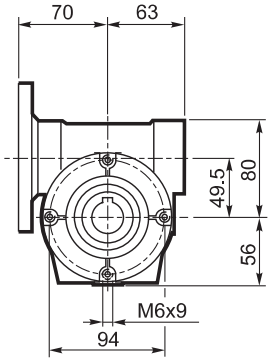
V



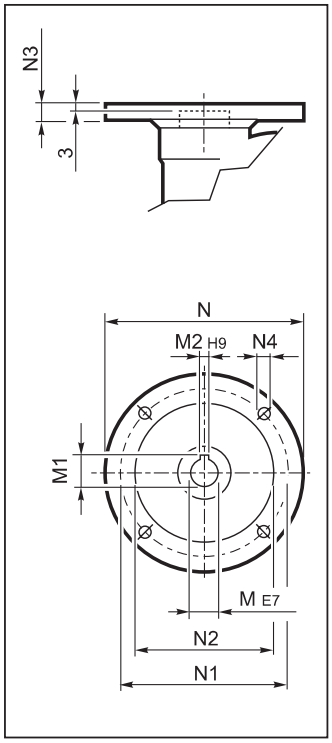


P

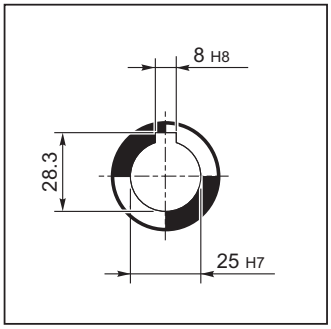




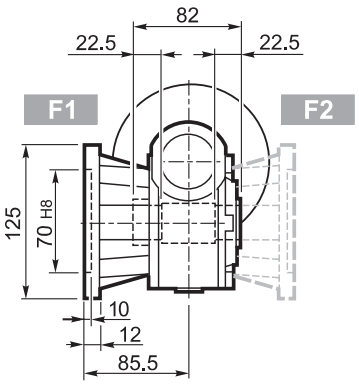
INPUT

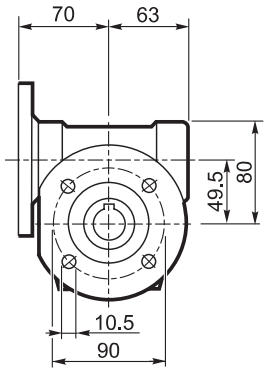


OUTPUT

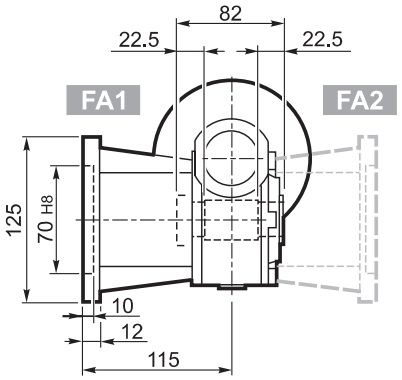


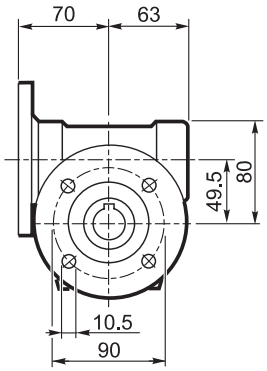
F_



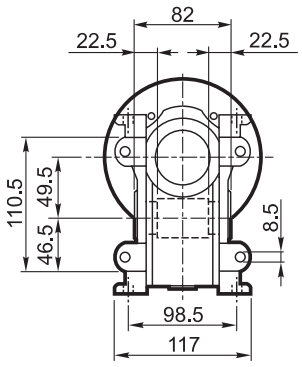


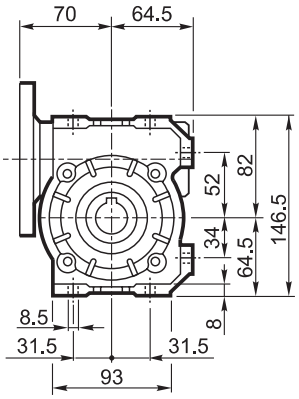
FA_



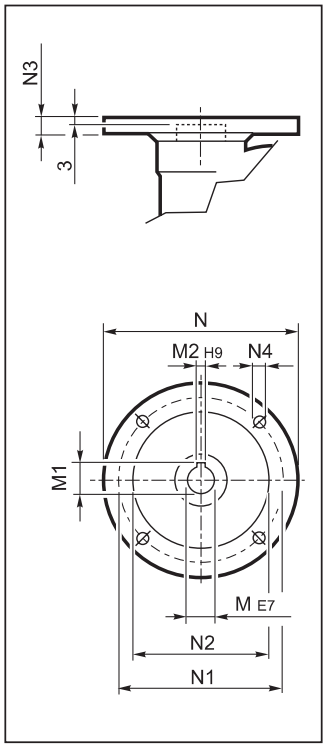


U

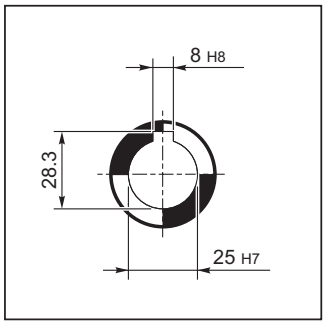




INPUT

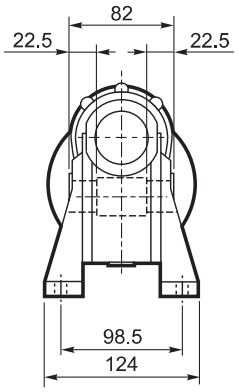


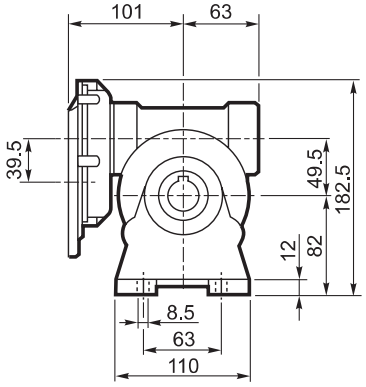
OUTPUT



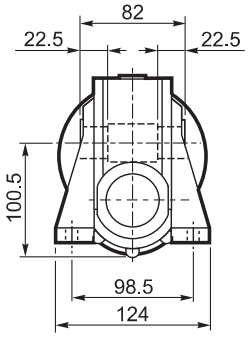
VF 49										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VF 49	P63 B5	11	12.8	4	140	115	95	10.5	9.5	3.0
VF 49	P71 B5	14	16.3	5	160	130	110	10.5	9.5	
VF 49	P80 B5	19	21.8	6	200	165	130	10	11.5	
VF 49	P63 B14	11	12.8	4	90	75	60	7	6	
VF 49	P71 B14	14	16.3	5	105	85	70	10.5	6.5	
VF 49	P80 B14	19	21.8	6	120	100	80	10	7	

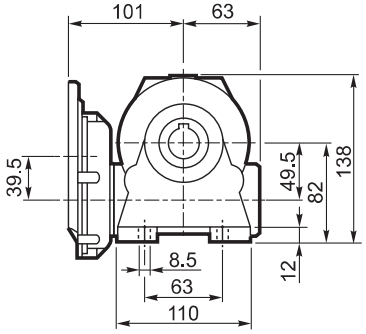
A



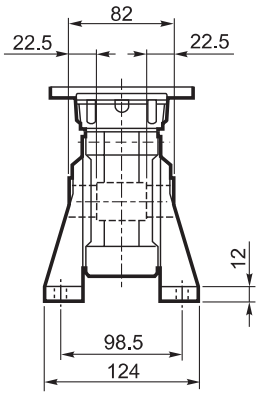


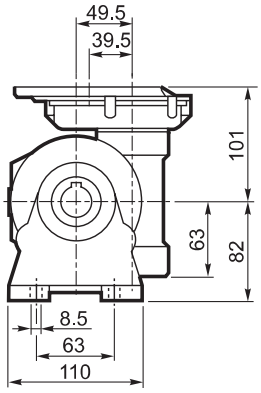
N





V





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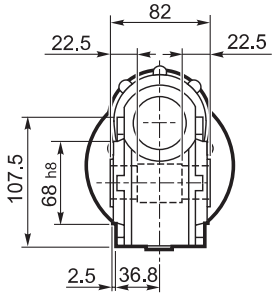
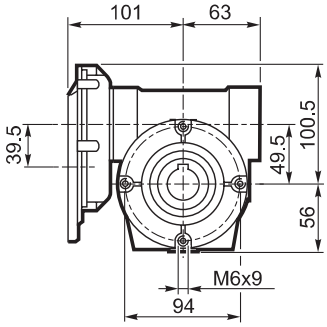
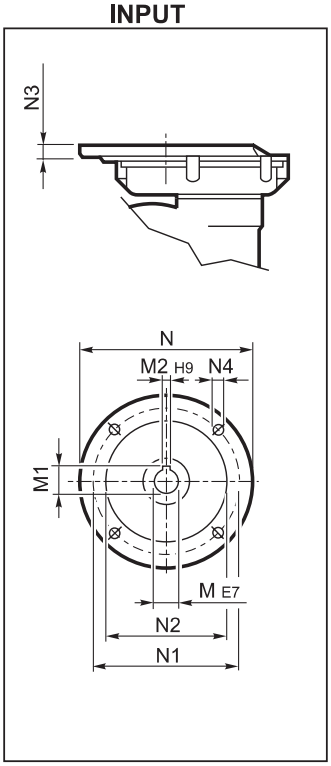
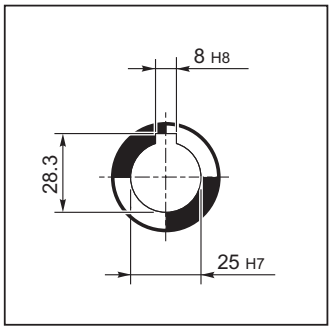




INPUT



OUTPUT



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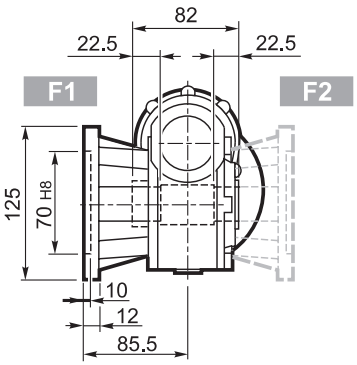

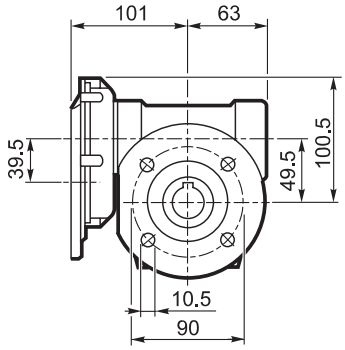

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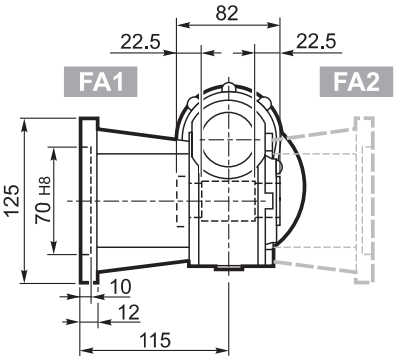
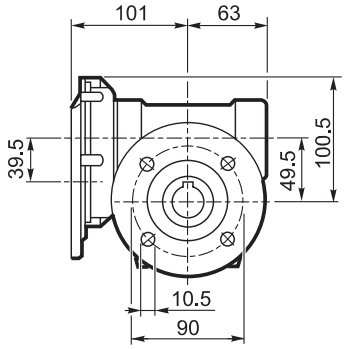
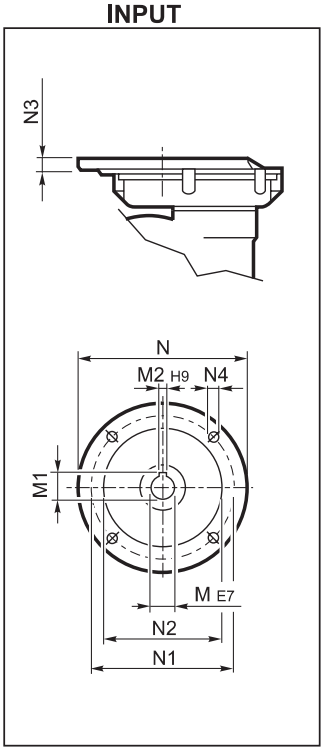
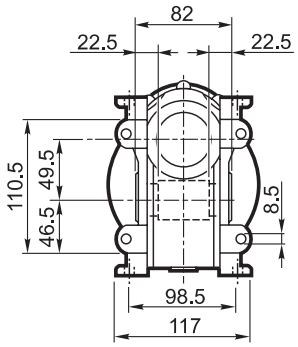


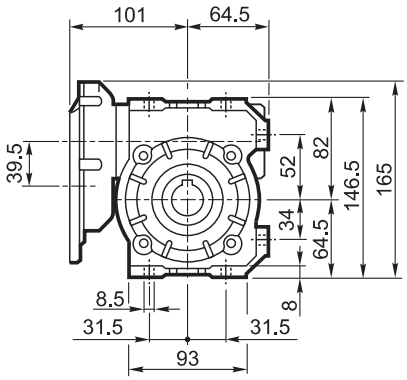


INPUT

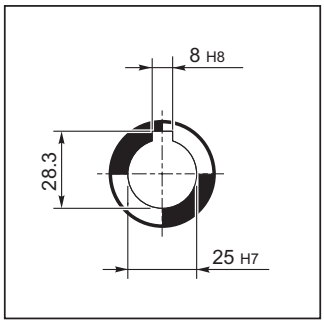


U



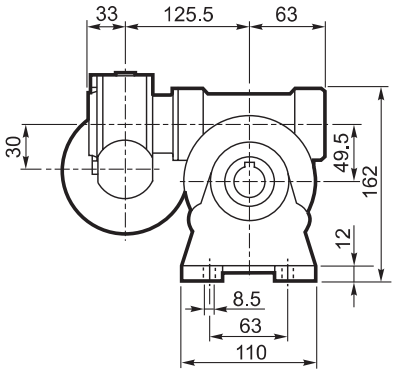


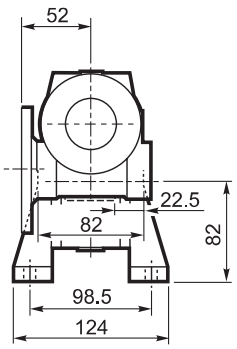
OUTPUT



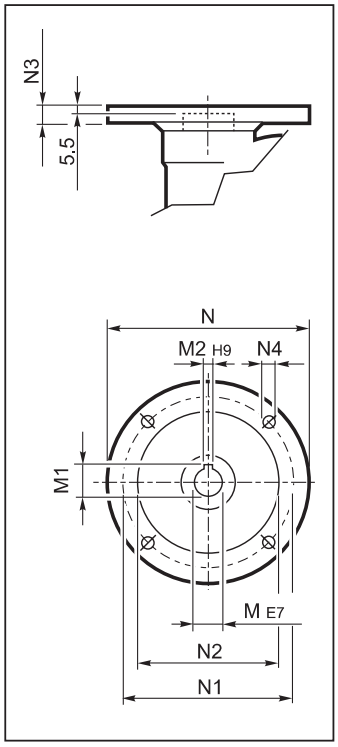
VFR 49										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VFR 49	P63 B5	11	12.8	4	140	115	95	11	M8 x 19	5.0

A

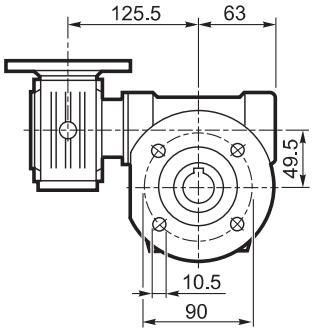


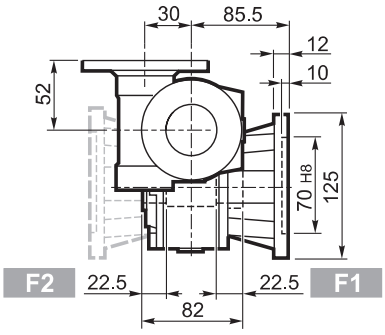


INPUT

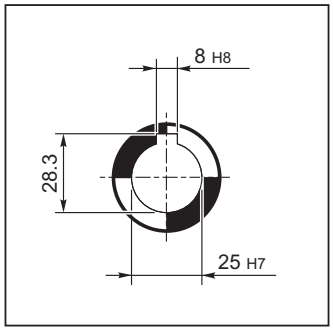


F_

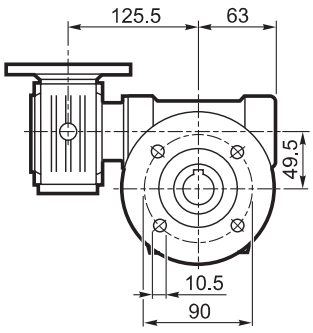


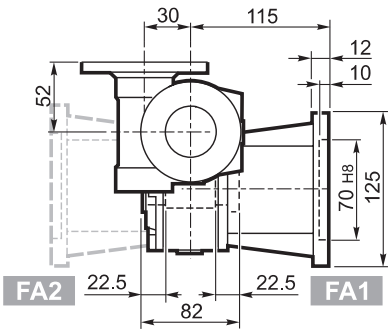


OUTPUT

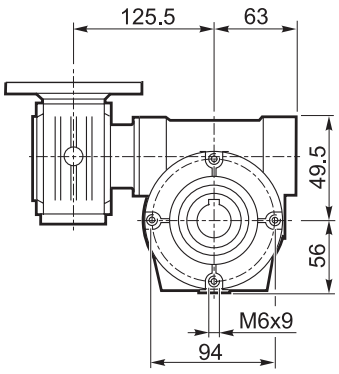


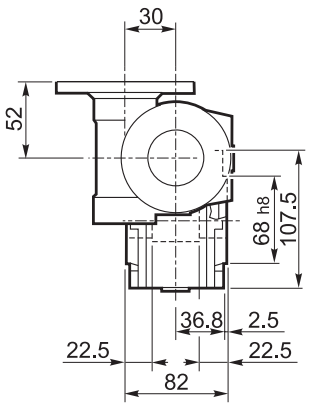
FA_



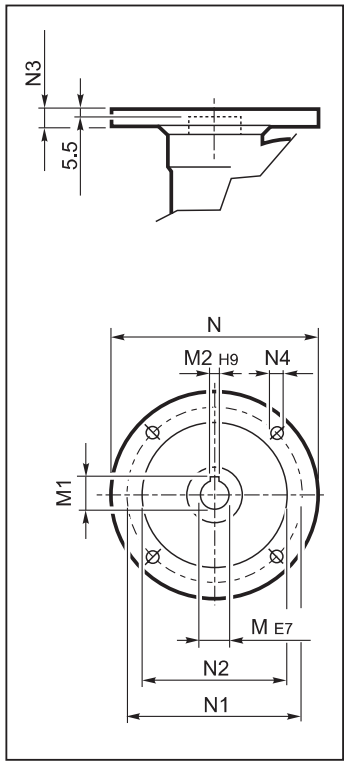


P





INPUT



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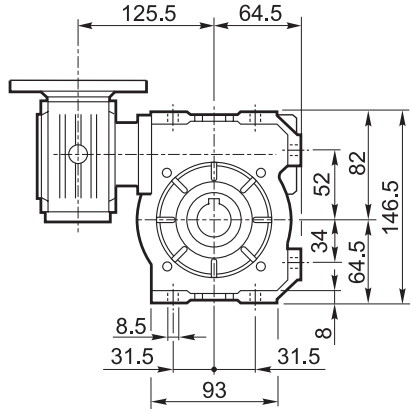
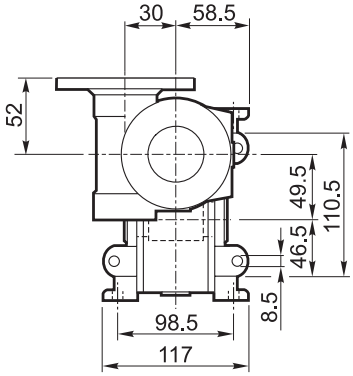
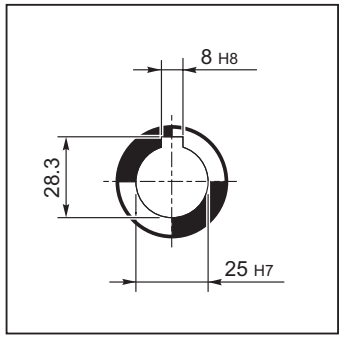




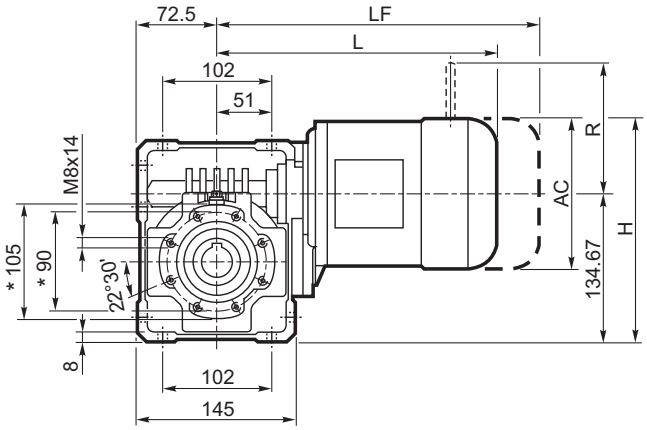
OUTPUT

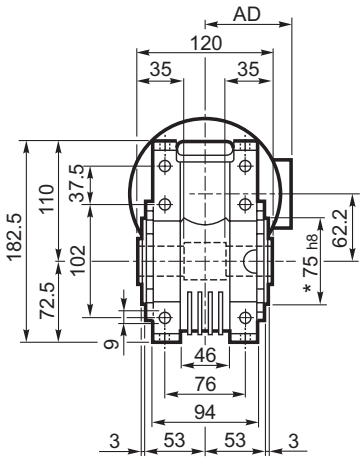


VF/VF 30/49										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VF/VF 30/49	P56 B14	9	10.4	3	80	65	50	7	5.5	4.5
VF/VF 30/49	P63 B14	11	12.8	4	90	75	60	6	5.5	

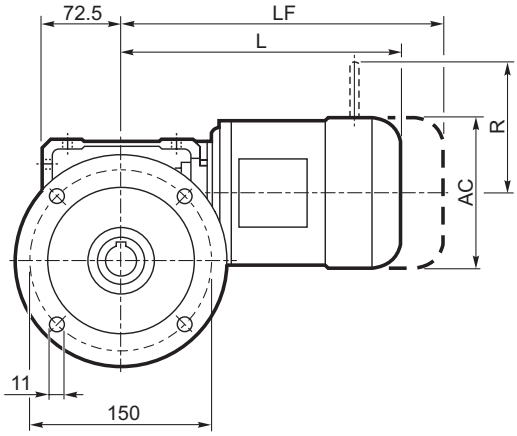
W 63...M

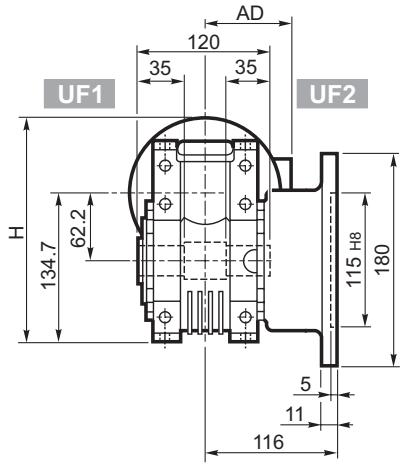
U



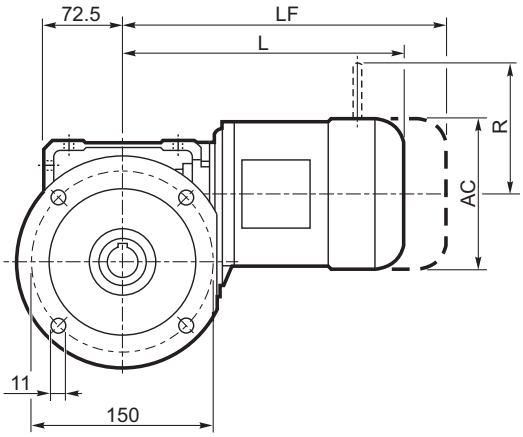


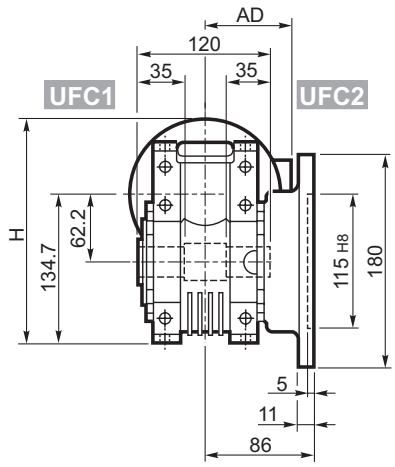
UF_





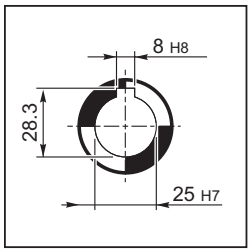
UFC_



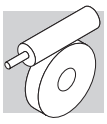


W 63													
			M_					M...FD M...FA		M...FD		M...FA	
			AC	H	L	AD	Kg	LF	Kg	R	AD	R	AD
W 63	S1	M1	138	204	289	108	13	350	15	103	132	124	108
W 63	S2	M2S	156	213	317	119	17	393	20	129	143	134	119

OUTPUT



* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*



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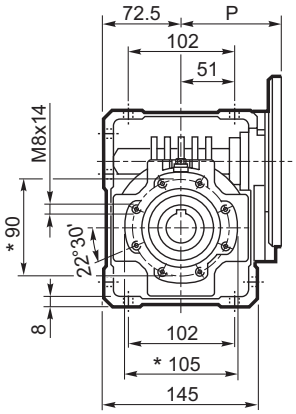

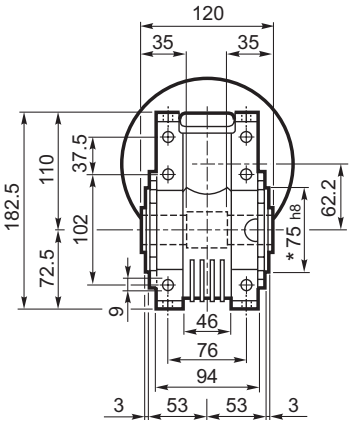

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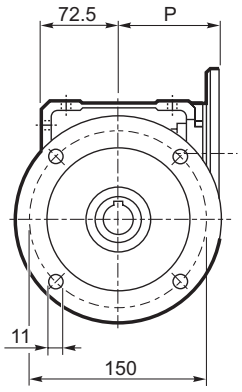

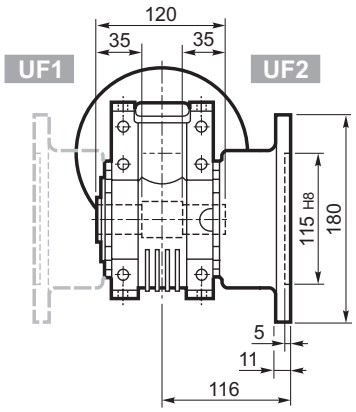

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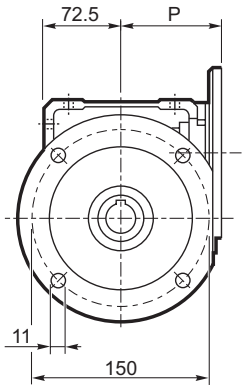
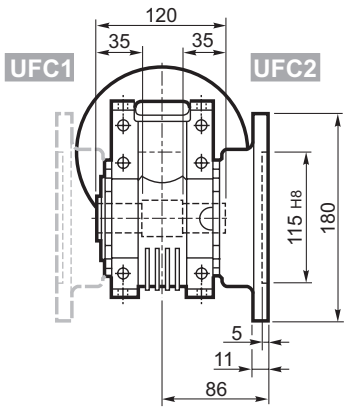
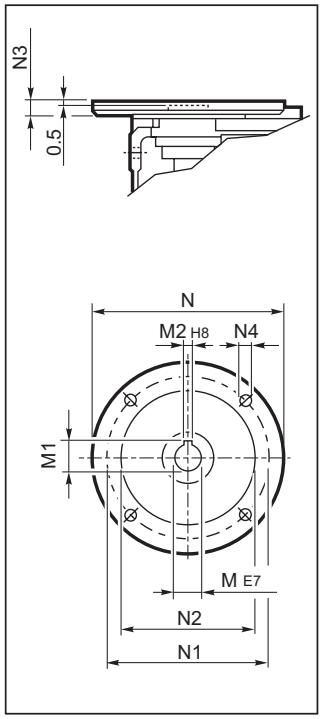
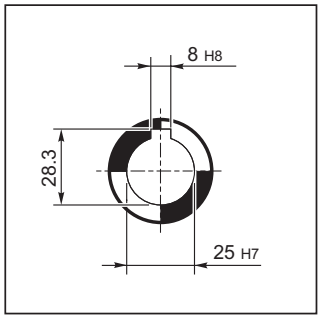




INPUT



OUTPUT



W 63											
		M	M1	M2	N	N1	N2	N3	N4	P	Kg
W 63	P71 B5	14	16.3	5	160	130	110	11	9	95	6.3
W 63	P80 B5	19	21.8	6	200	165	130	12	11.5	102	6.5
W 63	P90 B5	24	27.3	8	200	165	130	12	11.5	102	6.4
W 63	P71 B14	14	16.3	5	105	85	70	11	6.5	95	6.1
W 63	P80 B14	19	21.8	6	120	100	80	11	6.5	102	6.3
W 63	P90 B14	24	27.3	8	140	115	95	11	8.5	102	6.3

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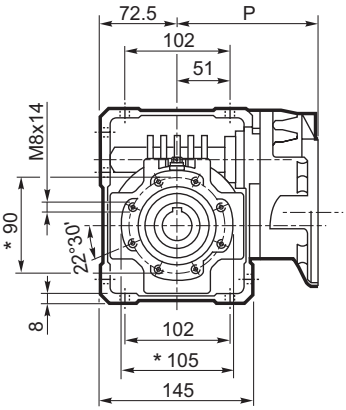

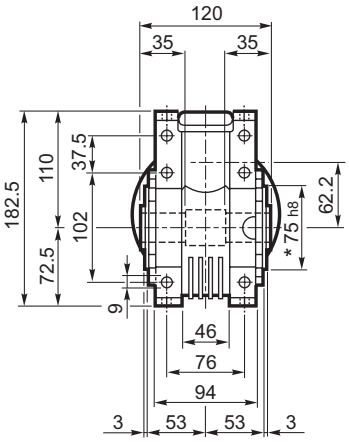

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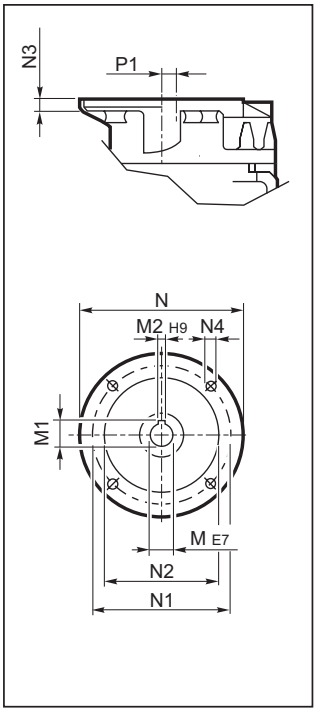

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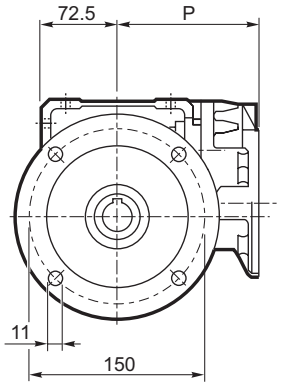

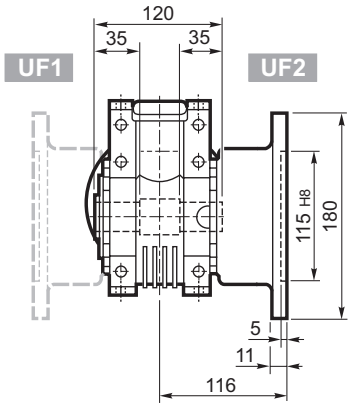

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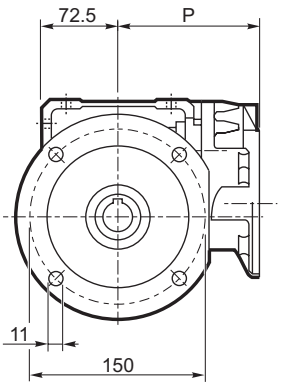
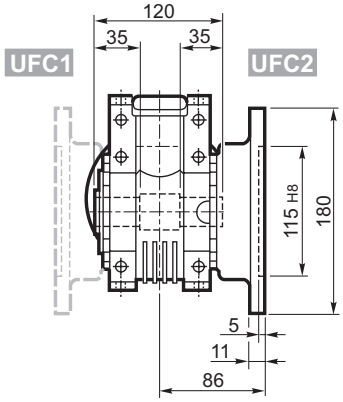
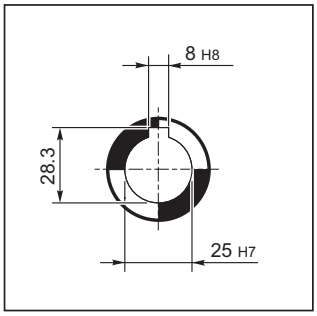




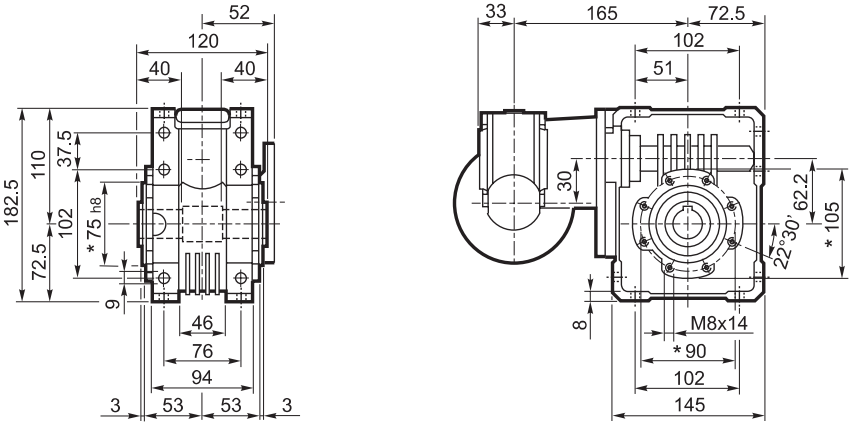
OUTPUT



WR 63												
		M	M1	M2	N	N1	N2	N3	N4	P	P1	Kg
WR 63	**P63 B5**	11	12.8	4	140	115	95	10	M8x10	133.5	11.42	7.1
WR 63	**P71 B5**	14	16.3	5	160	130	110	10	M8x10	133.5	11.42	

* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*

U



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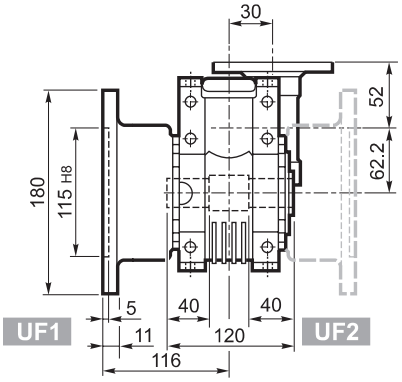

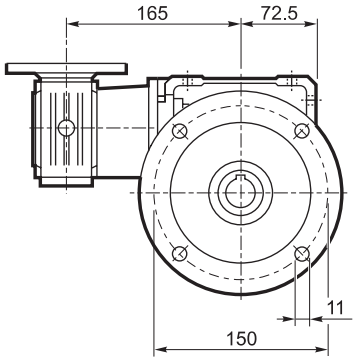

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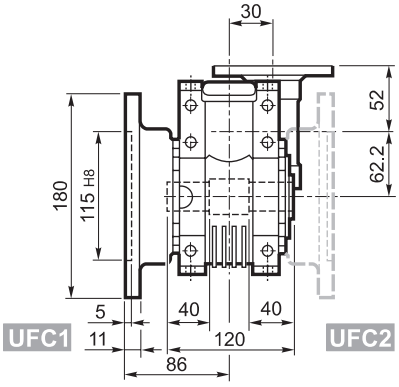
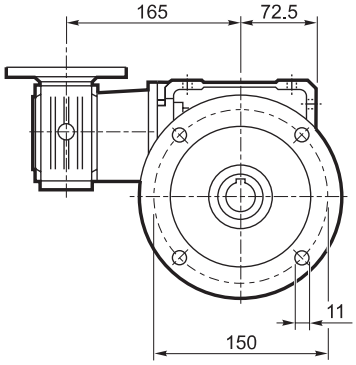
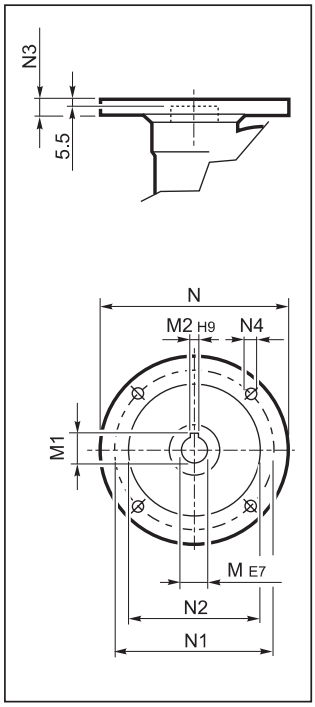
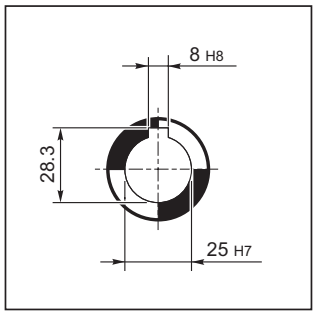




INPUT



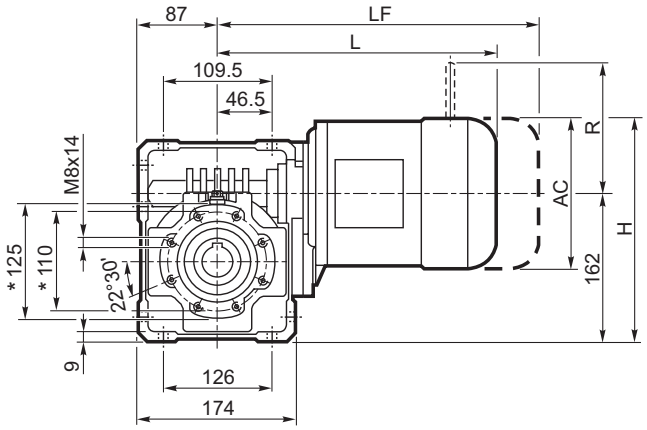
OUTPUT

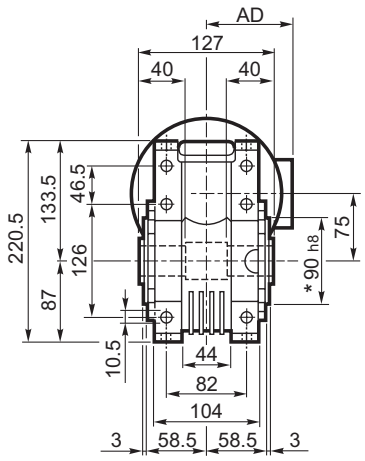


VF/W 30/63										
		M	M1	M2	N	N1	N2	N3	N4	kg
VF/W 30/63	P56 B5	9	10.4	3	120	100	80	7	7	8.0
VF/W 30/63	P63 B5	11	12.8	4	140	115	95	8	9.5	
VF/W 30/63	P63 B14	9	10.4	3	80	65	50	7	5.5	
VF/W 30/63	P63 B14	11	12.8	4	90	75	60	6	5.5	

* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*

U





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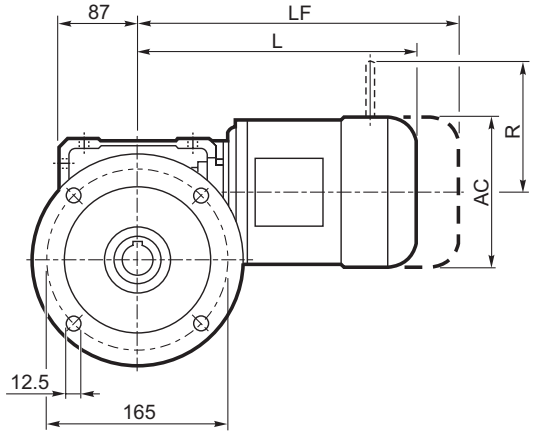
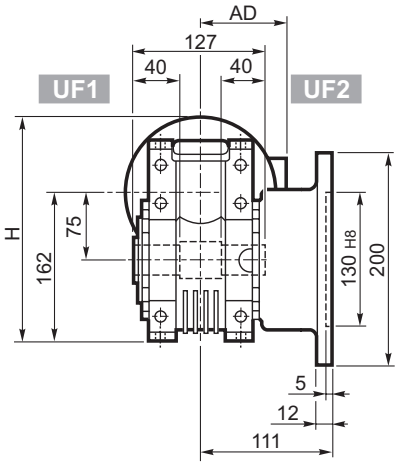
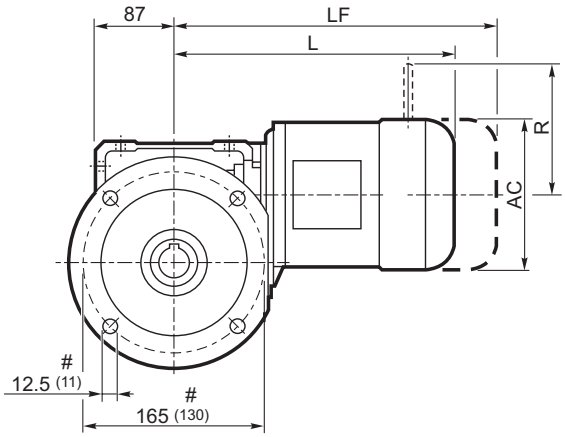
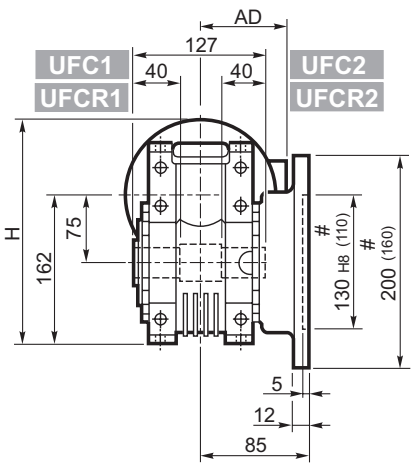


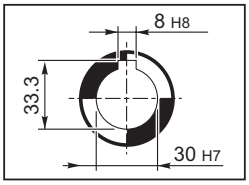


UFC_
UFCR_#

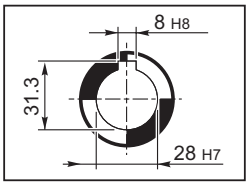




STANDARD OUTPUT

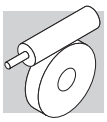


ON REQUEST OUTPUT



W 75													
			M_					M...FD M...FA		M...FD		M...FA	
			AC	H	L	AD	Kg	LF	Kg	R	AD	R	AD
W 75	**S1**	**M1**	138	231	308	108	16.0	369	18.2	103	132	124	108
W 75	**S2**	**M2S**	153	240	333	119	18.5	409	21.6	129	143	134	119
W 75	**S3**	**M3S**	193	258.5	376	142	25.6	472	31	160	155	160	142
W 75	**S3**	**M3L**	193	258.5	408	142	28.6	499	34	160	155	160	142

* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*
\# Flangia ridotta / *Reduced flange* / Verkürzte Flansch / *Bride reduit*



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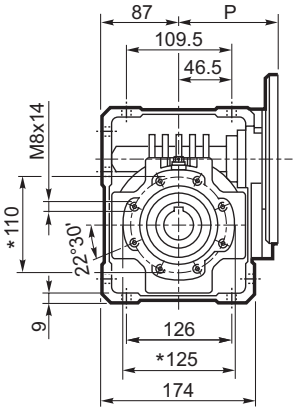
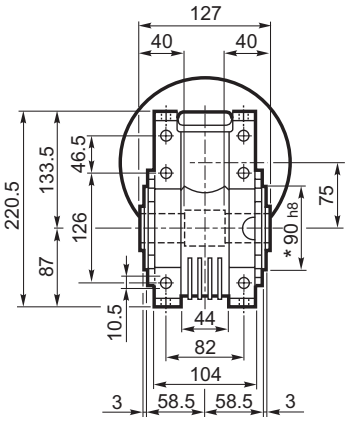
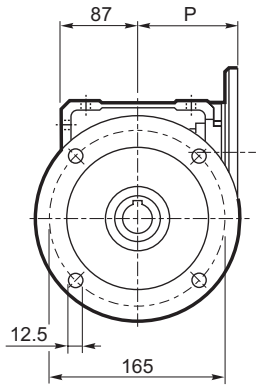
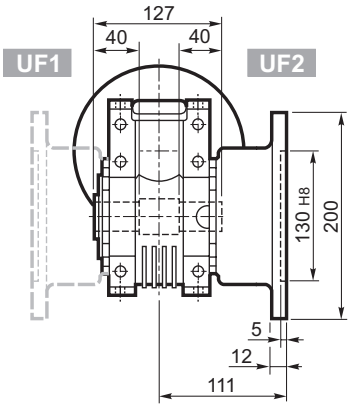




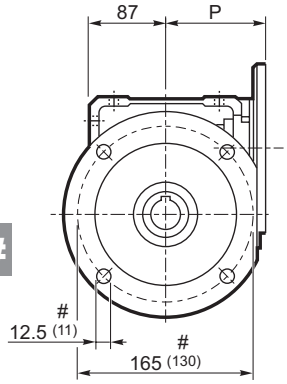
UF_

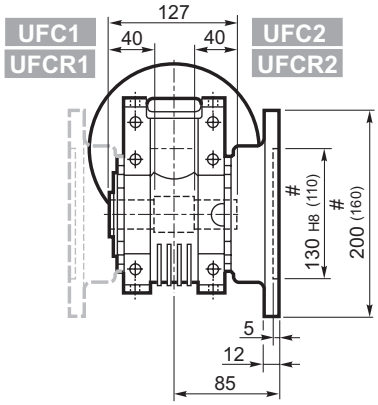




UFC_

UFCR_#





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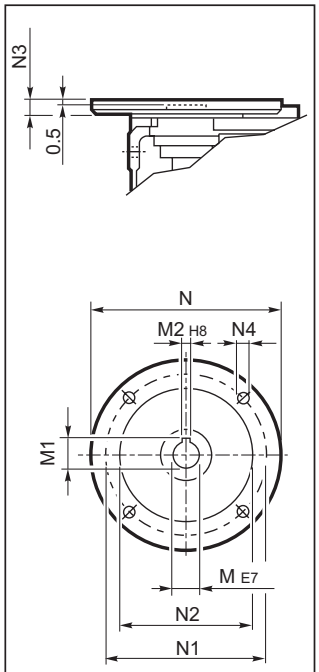
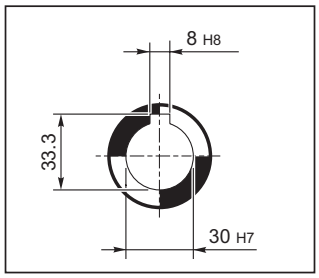
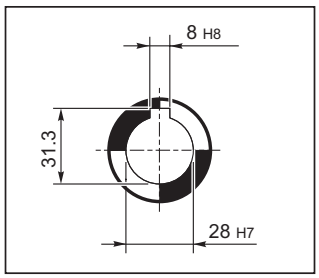


STANDARD OUTPUT



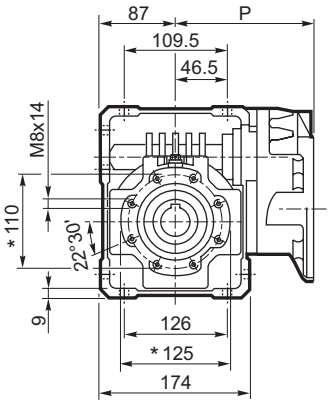
ON REQUEST OUTPUT

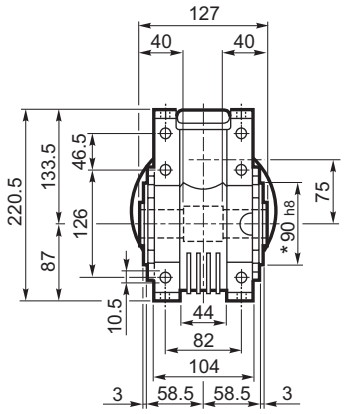


W 75											
		M	M1	M2	N	N1	N2	N3	N4	P	Kg
W 75	**P71 B5**	14	16.3	5	160	130	110	11	9	112	9.5
W 75	**P80 B5**	19	21.8	6	200	165	130	12	11.5	112	9.7
W 75	**P90 B5**	24	27.3	8	200	165	130	12	11.5	112	9.6
W 75	**P100 B5**	28	31.3	8	250	215	180	13	12.5	120	9.7
W 75	**P112 B5**	28	31.3	8	250	215	180	13	12.5	120	9.7
W 75	**P80 B14**	19	21.8	6	120	100	80	7.5	6.5	112	9.4
W 75	**P90 B14**	24	27.3	8	140	115	95	7.5	8.5	112	9.4
W 75	**P100 B14**	28	31.3	8	160	130	110	10	8.5	120	9.5
W 75	**P112 B14**	28	31.3	8	160	130	110	10	8.5	120	9.5

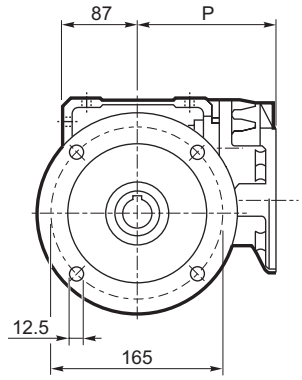
* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*
\# Flangia ridotta / *Reduced flange* / Verkürzte Flansch / *Bride reduit*

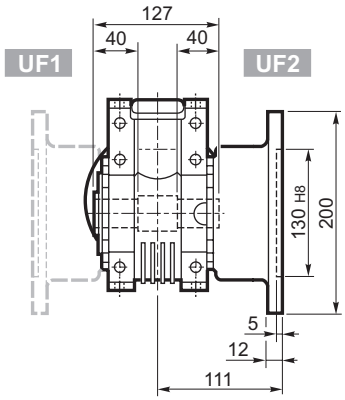
U





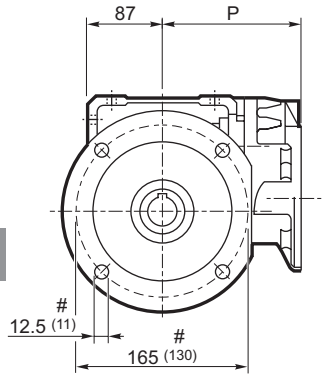
UF_

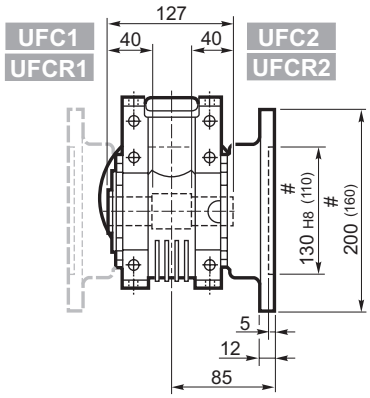




UFC_

UFCR_#





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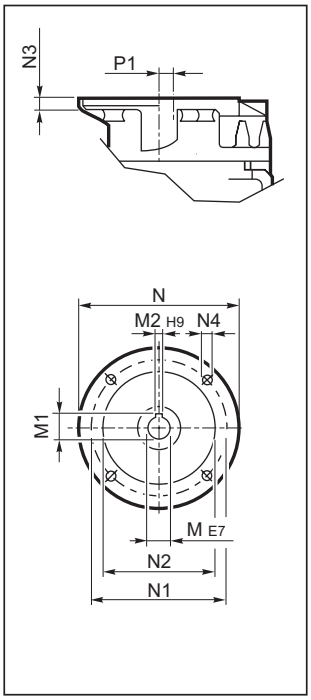
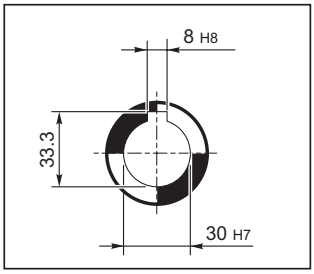
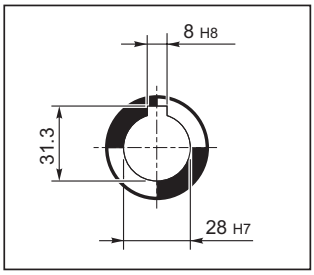


STANDARD OUTPUT



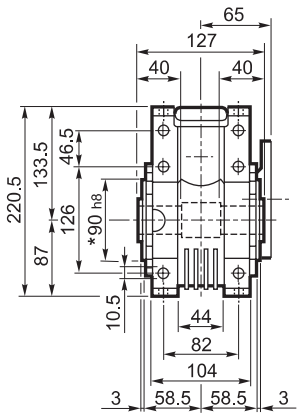
ON REQUEST OUTPUT

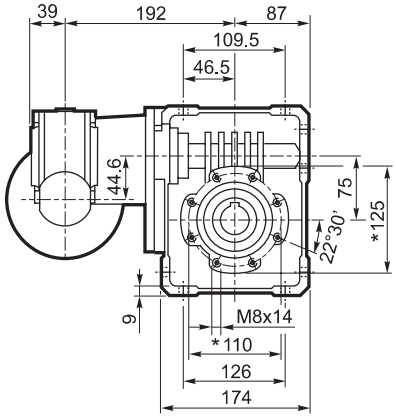


WR 75												
		M	M1	M2	N	N1	N2	N3	N4	P	P1	Kg
WR 75	**P63 B5**	11	12.8	4	140	115	95	10	M8x10	152	23.53	10.6
WR 75	**P71 B5**	14	16.3	5	160	130	110	10	M8x10	152	23.53	10.7
WR 75	**P80 B5**	19	21.8	6	200	165	130	12	M10x13	163.5	11	11.5
WR 75	**P90 B5**	24	27.3	8	200	165	130	12	M10x13	163.5	11	11.6

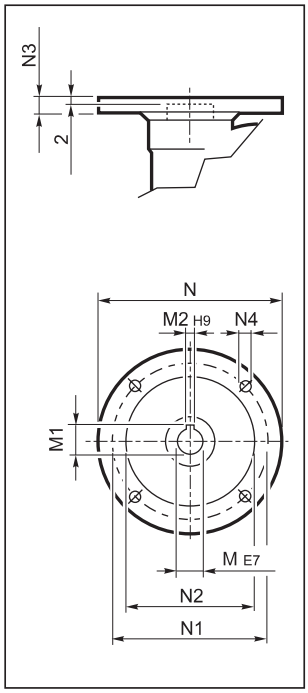
* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*
\# Flangia ridotta / *Reduced flange* / Verkürzte Flansch / *Bride reduit*

U





INPUT



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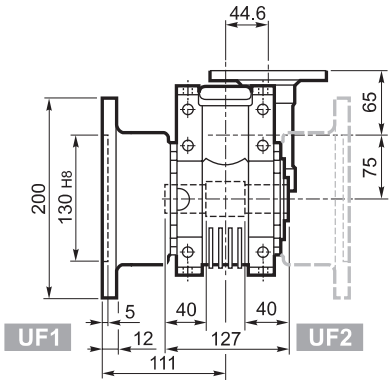
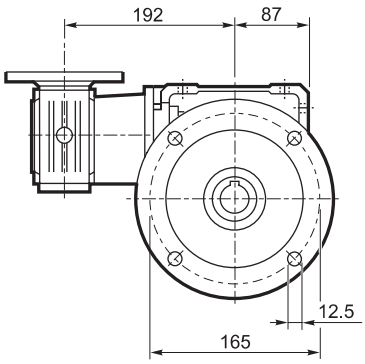
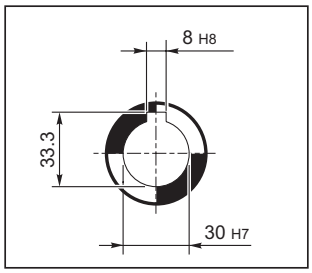


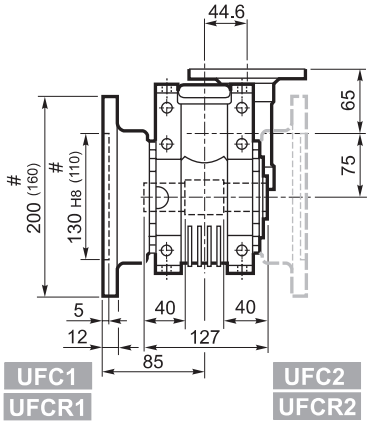


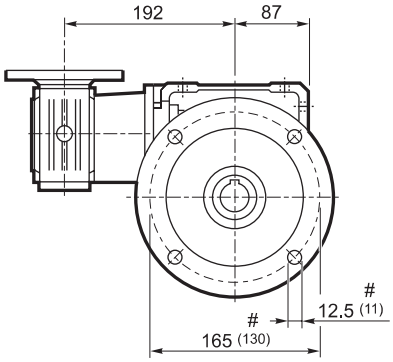
STANDARD OUTPUT



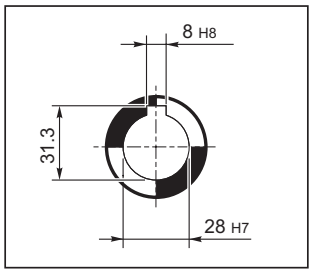
UFC_

UFCR_#





ON REQUEST OUTPUT



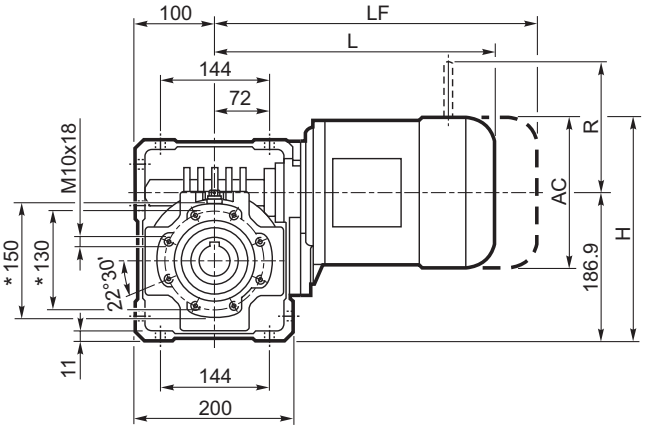
VF/W 44/75

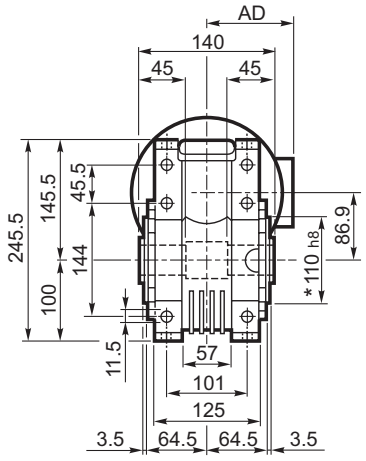
		M	M1	M2	N	N1	N2	N3	N4	Kg
VF/W 44/75	**P63 B5**	11	12.8	4	140	115	95	10	9.5	12.5
VF/W 44/75	**P71 B5**	14	16.3	5	160	130	110	10	9.5	
VF/W 44/75	**P63 B14**	11	12.8	4	90	75	60	8	5.5	
VF/W 44/75	**P71 B14**	14	16.3	5	105	85	70	10	7	

* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*
\# Flangia ridotta / *Reduced flange* / Verkürzte Flansch / *Bride reduit*

W 86...M

U





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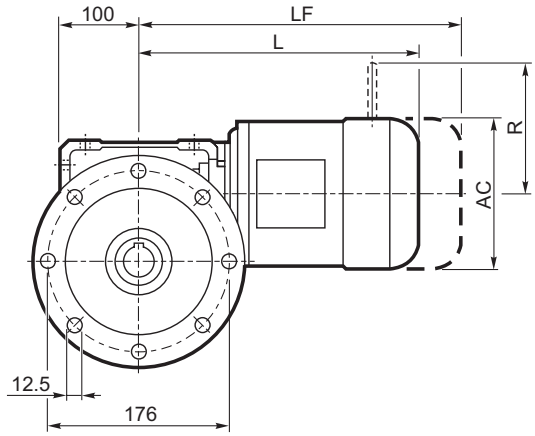

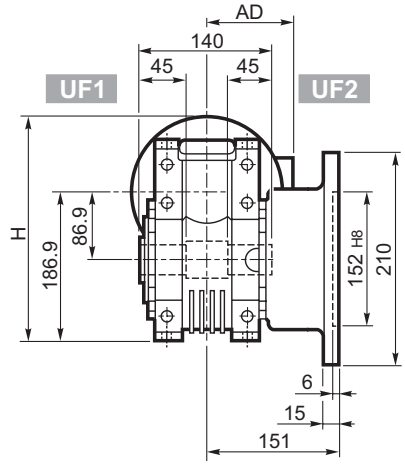

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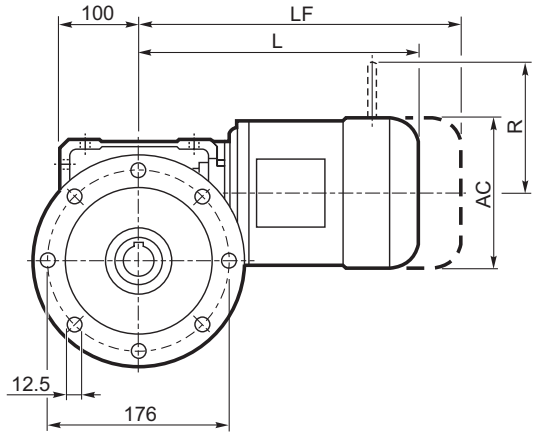
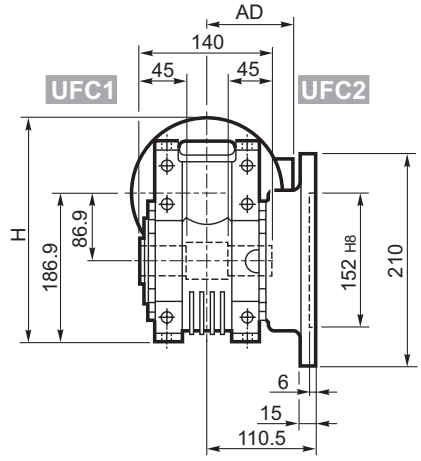
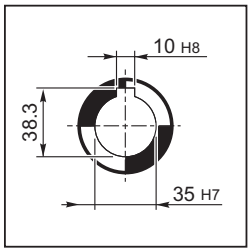




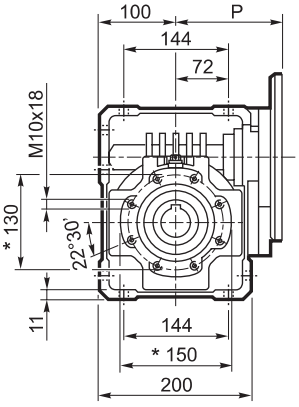
W 86													
			M_					M...FD M...FA		M...FD		M...FA	
			AC	H	L	AD	Kg	LF	Kg	R	AD	R	AD
W 86	**S1**	**M1**	138	256	324	108	20.1	385	22.3	103	132	124	108
W 86	**S2**	**M2S**	156	265	349	119	22.6	425	25.7	129	143	134	119
W 86	**S3**	**M3S**	193	283.5	392	142	29.7	488	35	160	155	160	142
W 86	**S3**	**M3L**	193	283.5	424	142	33	515	36	160	155	160	142

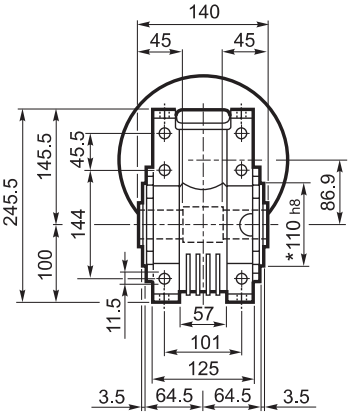
OUTPUT



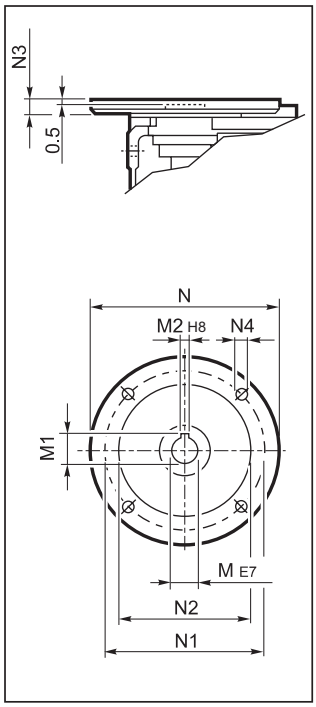
***** Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*

U

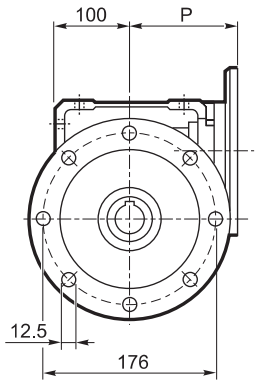


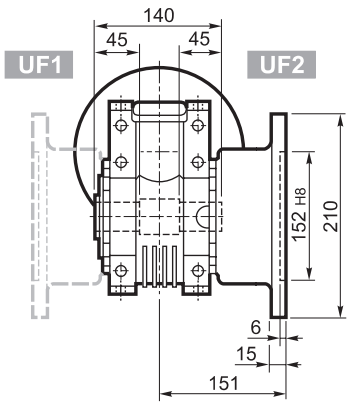


INPUT

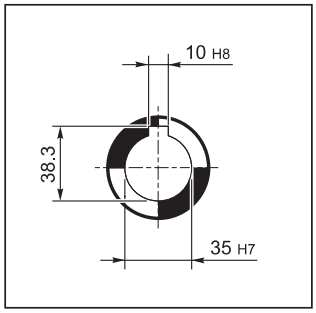


UF_





OUTPUT



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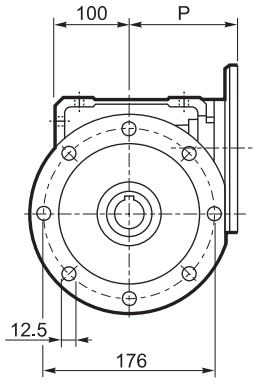
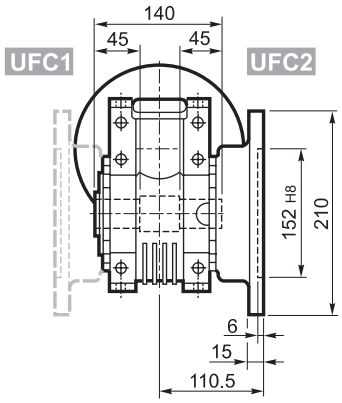
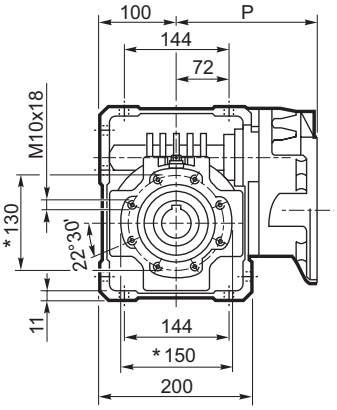


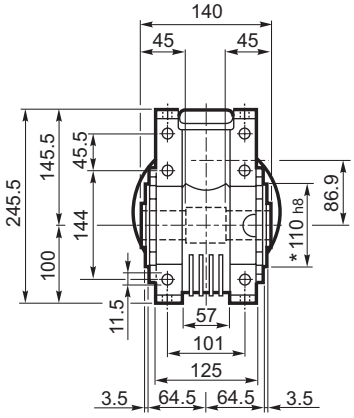


W 86											
		M	M1	M2	N	N1	N2	N3	N4	P	Kg
W 86	**P71 B5**	14	16.3	5	160	130	110	11	9	128	13.6
W 86	**P80 B5**	19	21.8	6	200	165	130	12	11.5	128	13.8
W 86	**P90 B5**	24	27.3	8	200	165	130	12	11.5	128	13.7
W 86	**P100 B5**	28	31.3	8	250	215	180	13	12.5	136	13.8
W 86	**P112 B5**	28	31.3	8	250	215	180	13	12.5	136	13.8
W 86	**P80 B14**	19	21.8	6	120	100	80	7.5	6.5	128	13.5
W 86	**P90 B14**	24	27.3	8	140	115	95	7.5	8.5	128	13.5
W 86	**P100 B14**	28	31.3	8	160	130	110	10	8.5	136	13.6
W 86	**P112 B14**	28	31.3	8	160	130	110	10	8.5	136	13.6

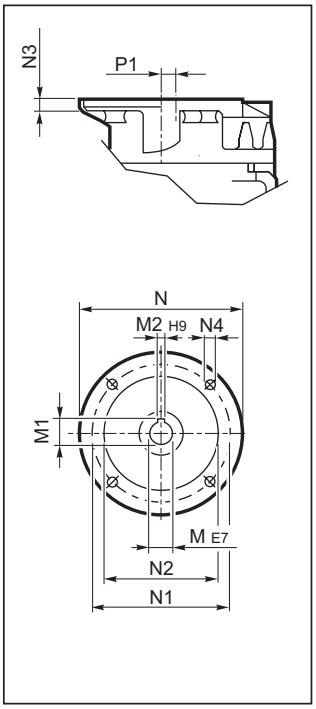
* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*

U

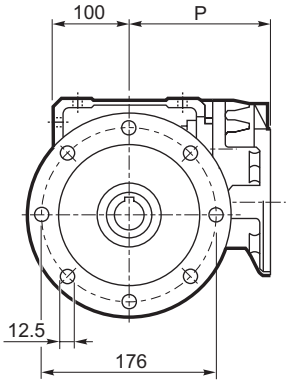


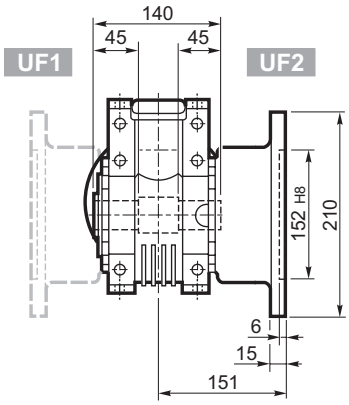


INPUT

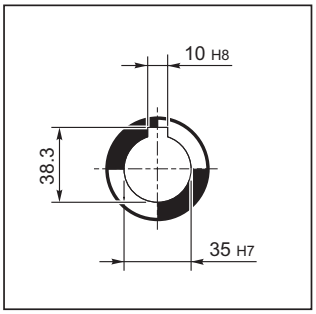


UF_

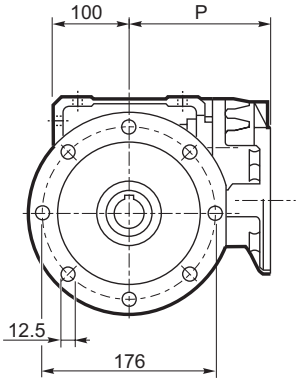


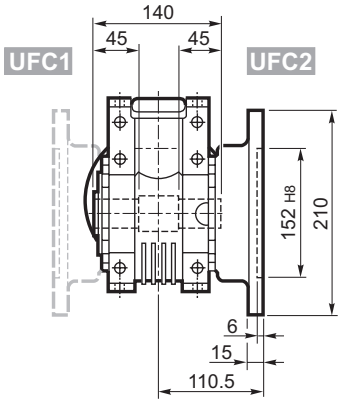


OUTPUT



UFC_



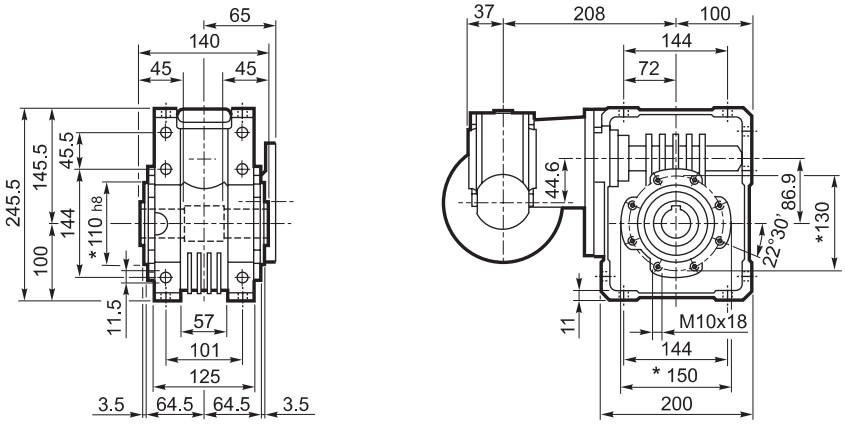


WR 86

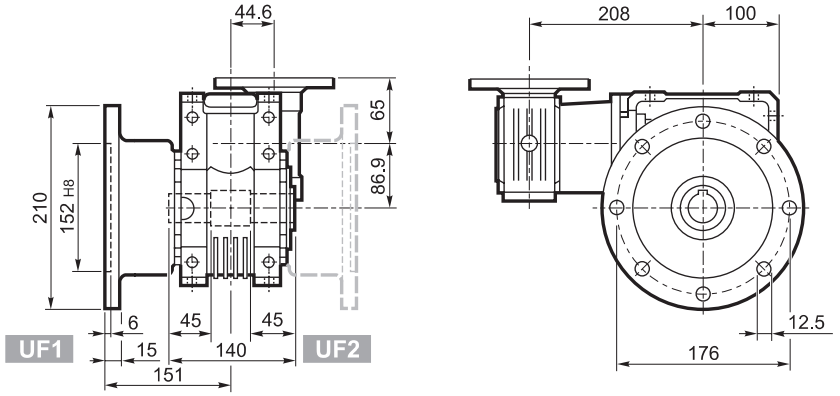
		M	M1	M2	N	N1	N2	N3	N4	P	P1	Kg
WR 86	**P63 B5**	11	12.8	4	140	115	95	10	M8x10	168	35.4	14.3
WR 86	**P71 B5**	14	16.3	5	160	130	110	10	M8x10	168	35.4	14.4
WR 86	**P80 B5**	19	21.8	6	200	165	130	12	M10x13	179.5	22.9	15.2
WR 86	**P90 B5**	24	27.3	8	200	165	130	12	M10x13	179.5	22.9	15.3

***** Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous les deux cotés*

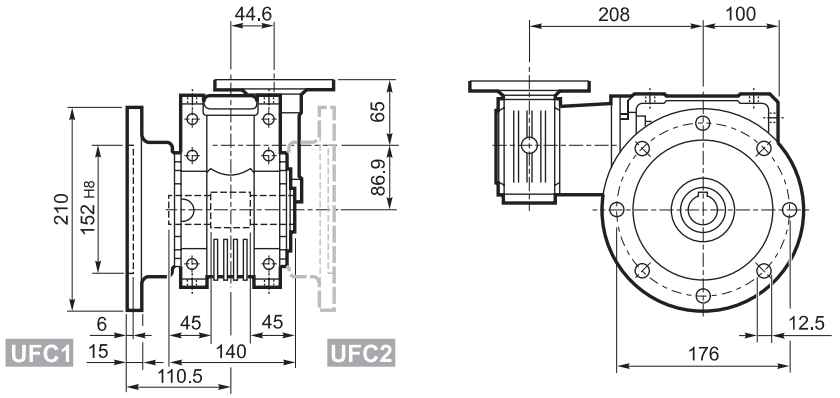
U



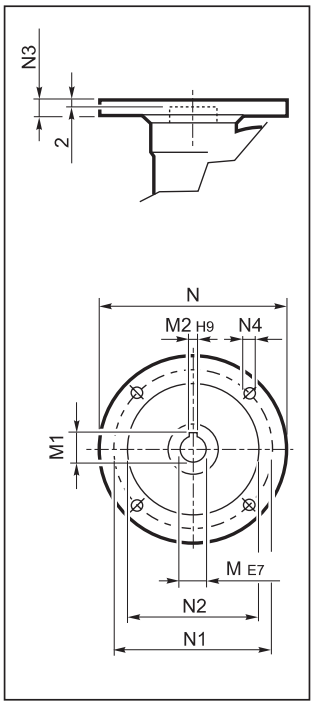
UF_



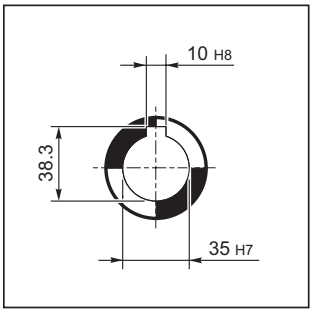
UFC_



INPUT



OUTPUT

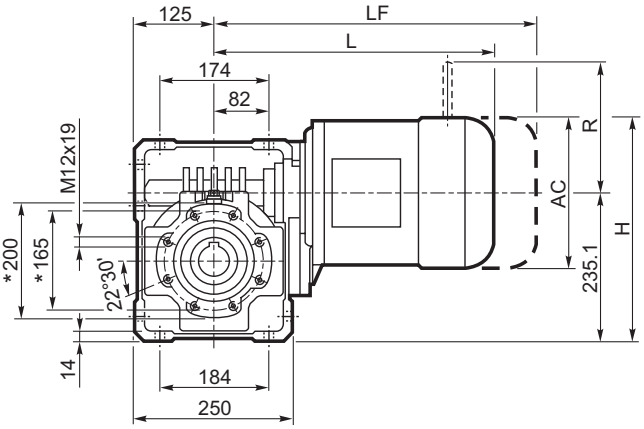


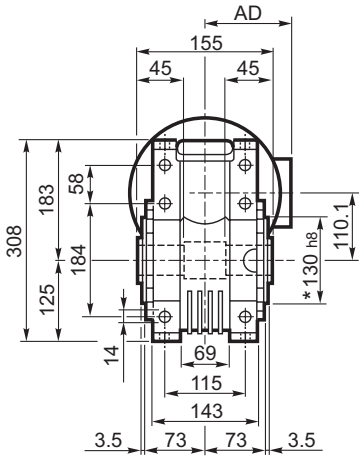
VF/W 44/86										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VF/W 44/86	P63 B5	11	12.8	4	140	115	95	10	9.5	16.6
VF/W 44/86	P71 B5	14	16.3	5	160	130	110	10	9.5	
VF/W 44/86	P63 B14	11	12.8	4	90	75	60	8	5.5	
VF/W 44/86	P71 B14	14	16.3	5	105	85	70	10	7	

* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*

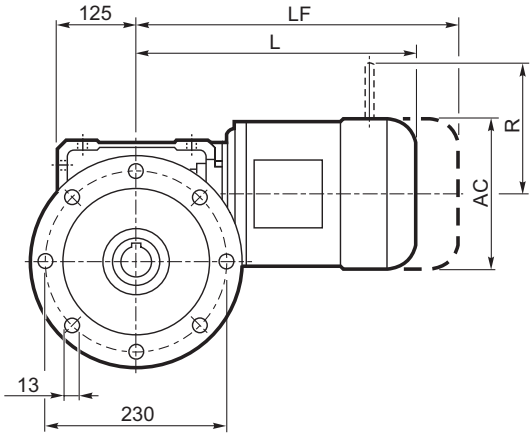
W 110...M

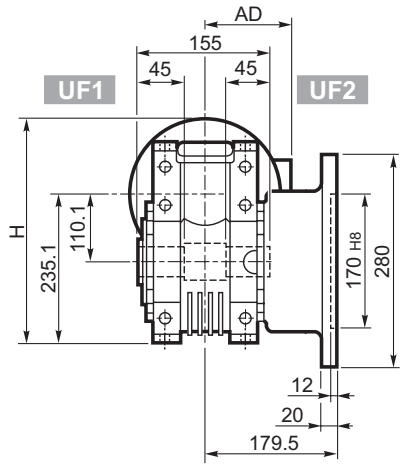
U



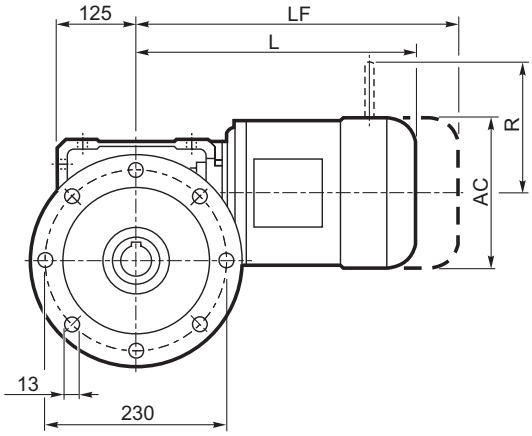


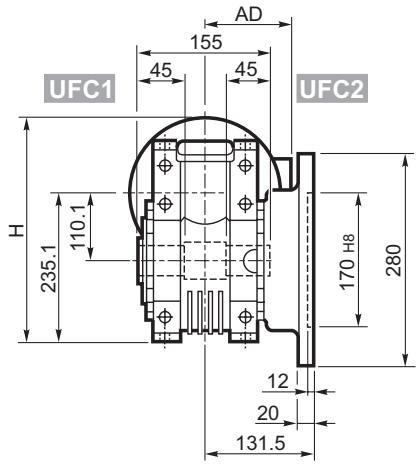
UF_





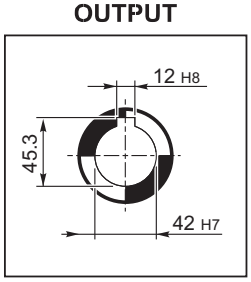
UFC_





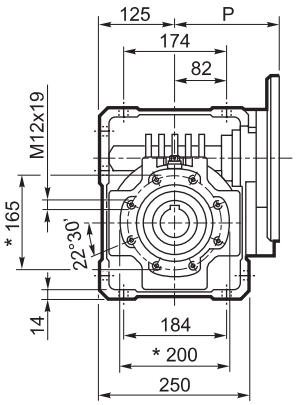
W 110													
			M_					M...FD M...FA		M...FD		M...FA	
			AC	H	L	AD	Kg	LF	Kg	R	AD	R	AD
W 110	**S2**	**M2S**	156	313	364	119	38	440	41	129	143	134	119
W 110	**S3**	**M3S**	193	332	407	142	46	503	50	160	155	160	142
W 110	**S3**	**M3L**	193	332	439	142	48	530	53	160	155	160	142

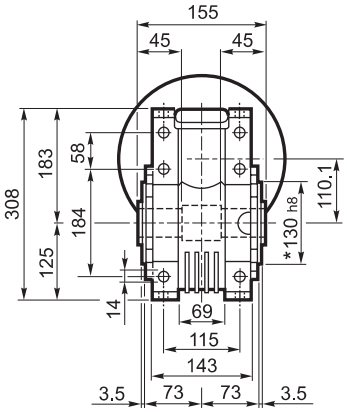
OUTPUT



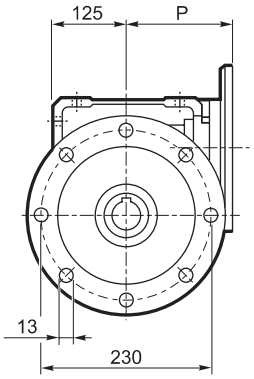
***** Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*

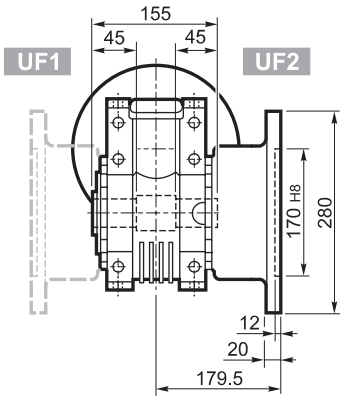
U





UF_





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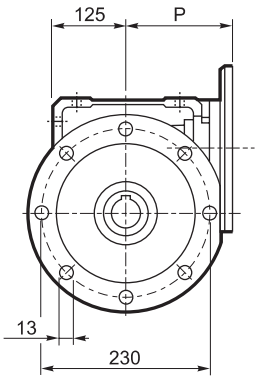
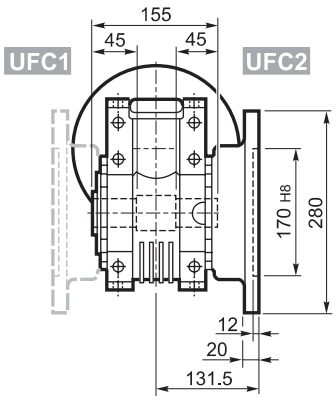
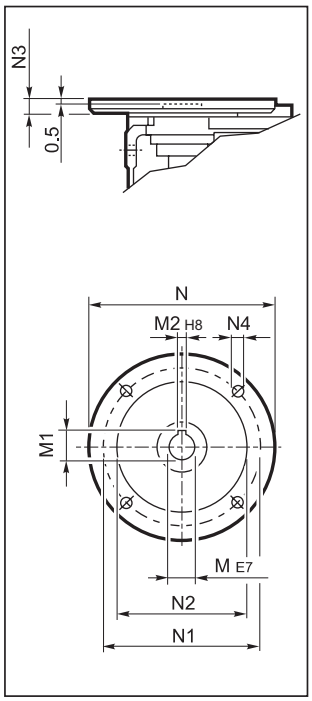
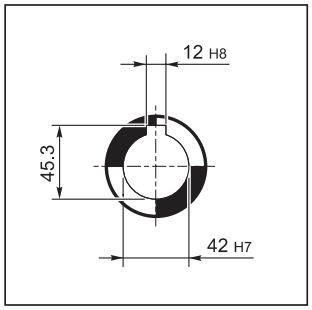




INPUT



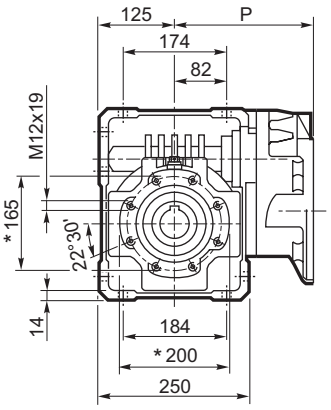
OUTPUT

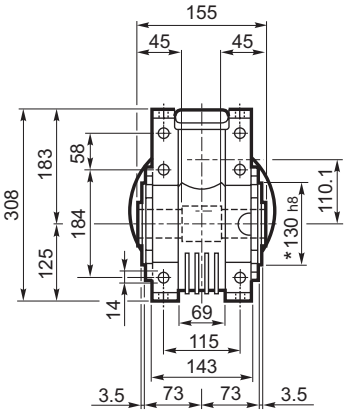


W 110											
		M	M1	M2	N	N1	N2	N3	N4	P	Kg
W 110	**P80 B5**	19	21.8	6	200	165	130	—	M10x12	143	28
W 110	**P90 B5**	24	27.3	8	200	165	130	—	M10x12	143	28
W 110	**P100 B5**	28	31.3	8	250	215	180	13	13	151	29
W 110	**P112 B5**	28	31.3	8	250	215	180	13	13	151	29
W 110	**P132 B5**	38	41.3	10	300	265	230	16	13	226	31
W 110	**P80 B14**	19	21.8	6	120	100	80	7.5	7	143	27.5
W 110	**P90 B14**	24	27.3	8	140	115	95	6.5	9	143	27.5
W 110	**P100 B14**	28	31.3	8	160	130	110	13	9	151	27
W 110	**P112 B14**	28	31.3	8	160	130	110	13	9	151	27

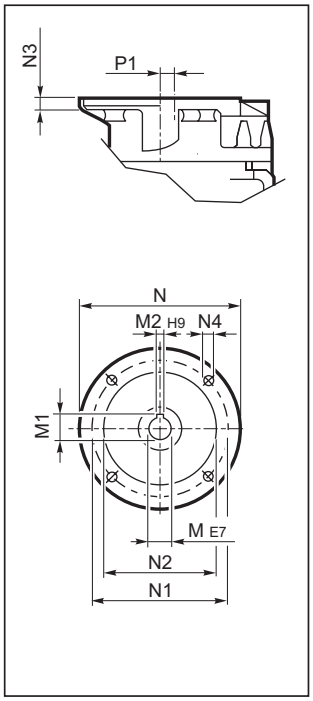
* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*

U

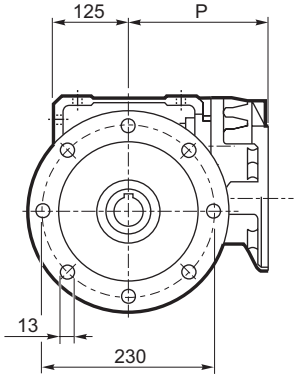


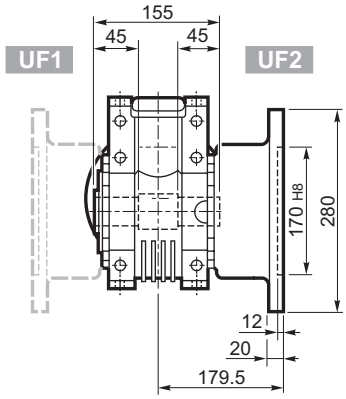


INPUT

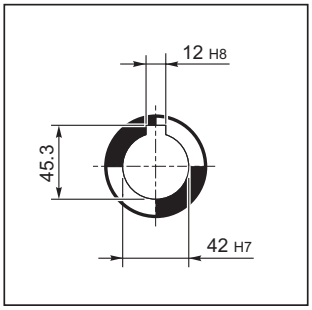


UF_





OUTPUT



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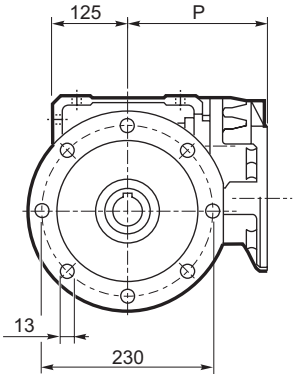
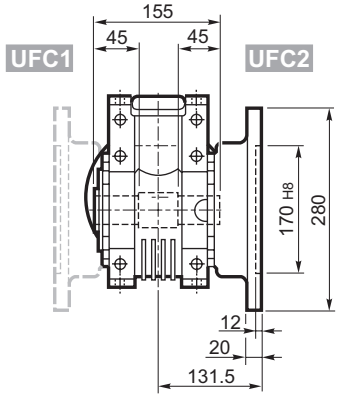
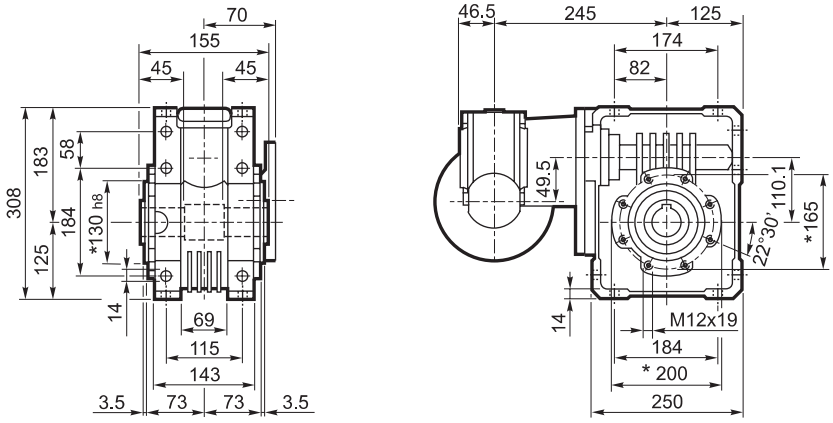




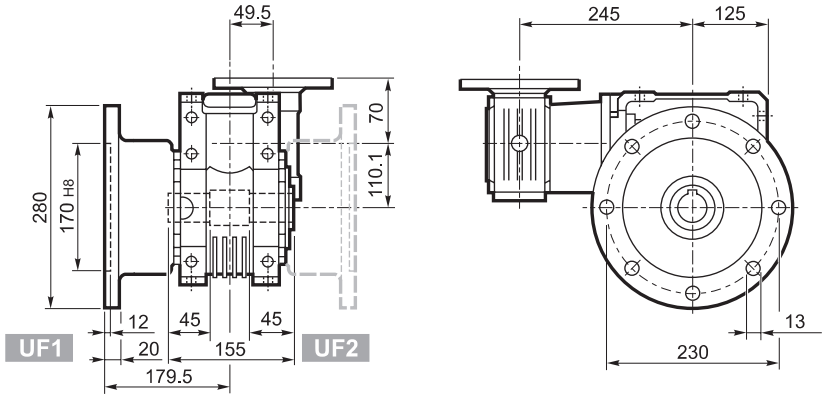
WR 110												
		M	M1	M2	N	N1	N2	N3	N4	P	P1	Kg
WR 110	**P71 B5**	14	16.3	5	160	130	110	10	M8x14	185	58.6	30.5
WR 110	**P80 B5**	19	21.8	6	200	165	130	14	M10x15	204	21.1	31
WR 110	**P90 B5**	24	27.3	8	200	165	130	14	M10x15	204	21.1	31
WR 110	**P100 B5**	28	31.3	8	250	215	180	14	M12x13	213	21.1	32
WR 110	**P112 B5**	28	31.3	8	250	215	180	14	M12x13	213	21.1	32

***** Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*

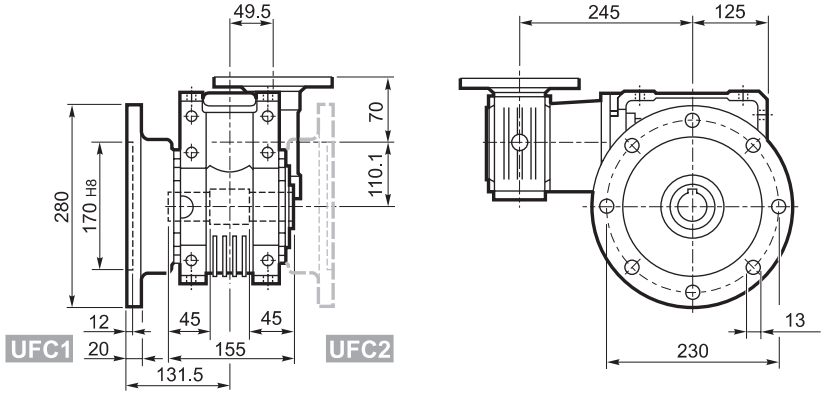
U



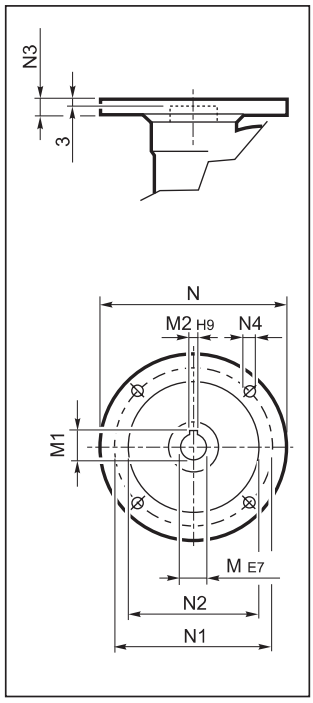
UF_



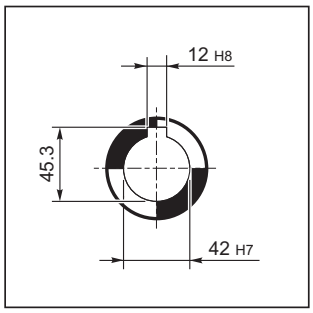
UFC_



INPUT



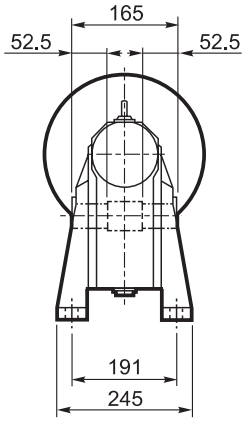
OUTPUT

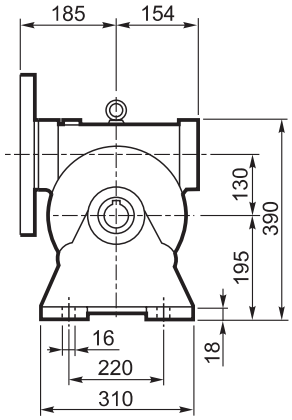


VF/W 49/110										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VF/W 49/110	P63 B5	11	12.8	4	140	115	95	10.5	9.5	33
VF/W 49/110	P71 B5	14	16.3	5	160	130	110	10.5	9.5	
VF/W 49/110	P80 B5	19	21.8	6	200	165	130	10	11.5	
VF/W 49/110	P63 B14	11	12.8	4	90	75	60	7	6	
VF/W 49/110	P71 B14	14	16.3	5	105	85	70	10.5	6.5	
VF/W 49/110	P80 B14	19	21.8	6	120	100	80	10	7	

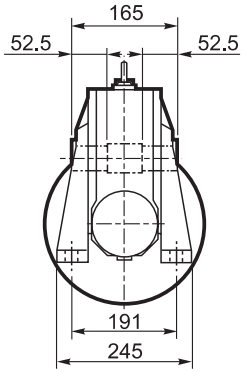
* Da ambo i lati / *On both sides* / Auf beiden seiten / *Tous le deux cotés*

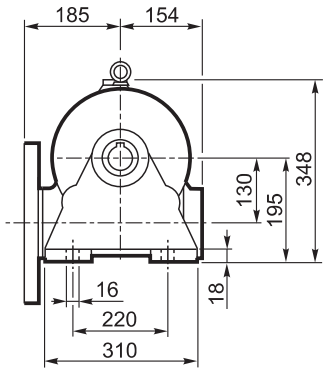
A



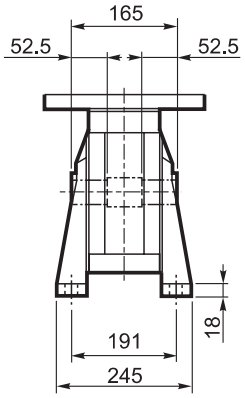


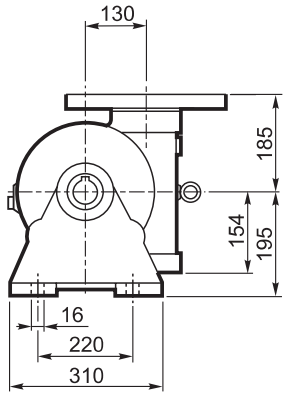
N



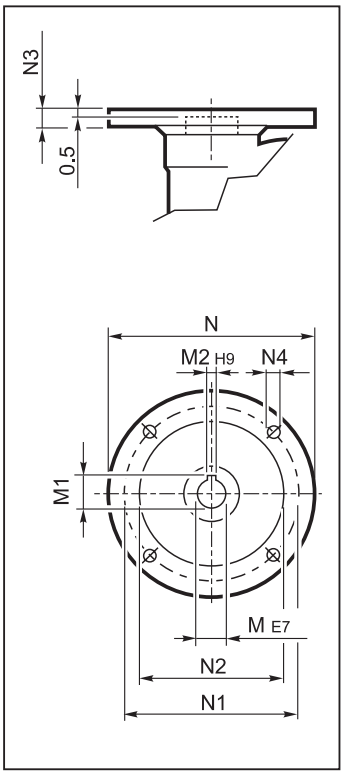


V

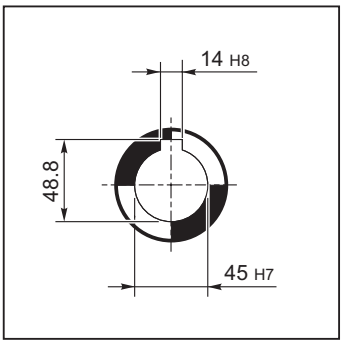




INPUT



OUTPUT



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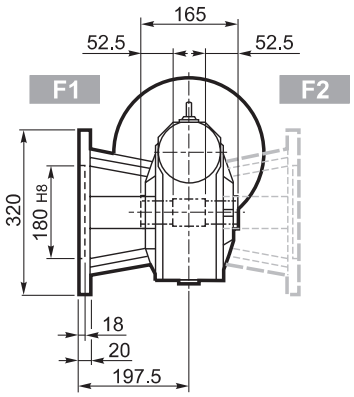
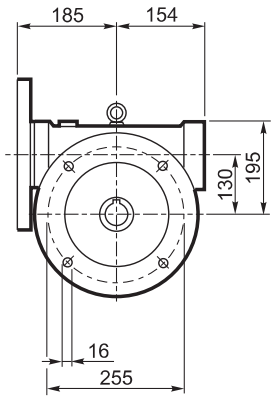
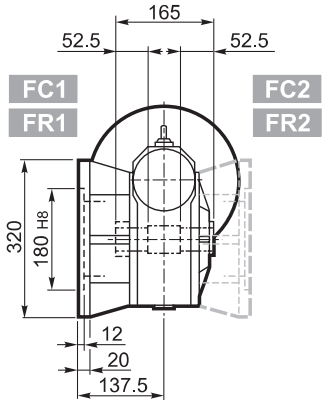
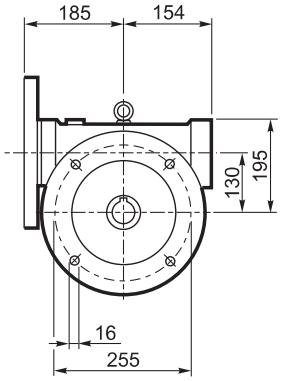


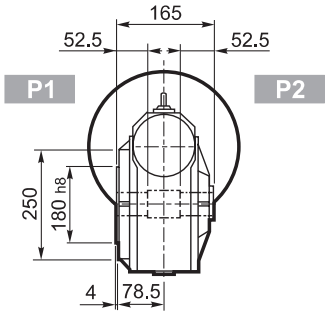


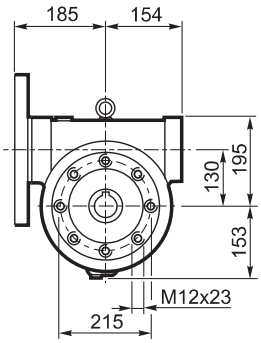
FC_
FR_



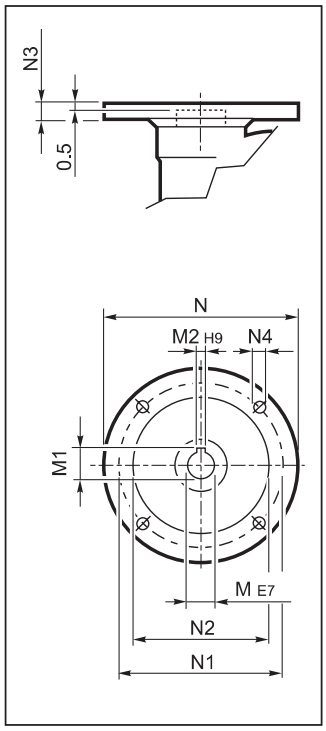


P_

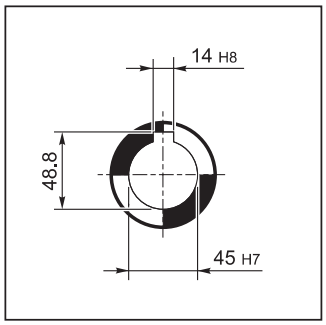




INPUT



OUTPUT

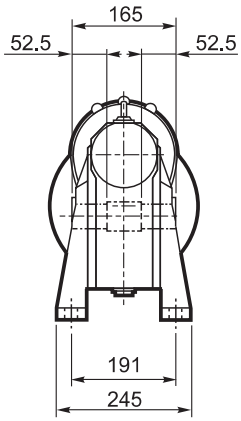


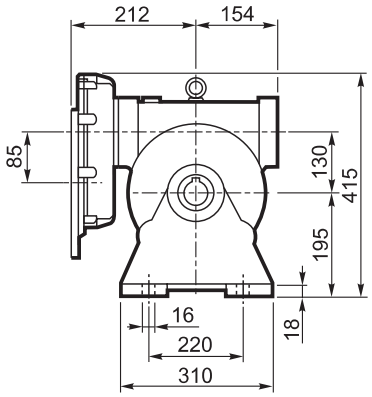
VF 130

		M	M1	M2	N	N1	N2	N3	N4	Kg
VF130	**P90 B5**	24	27.3	8	200	165	130	17	11	49
VF130	**P100 B5**	28	31.3	8	250	215	180	17	13	
VF130	**P112 B5**	28	31.3	8	250	215	180	17	13	
VF130	**P132 B5**	38	40.1#	10	300	265	230	17	13	

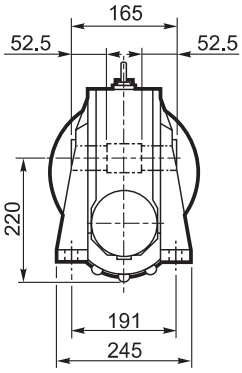
Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

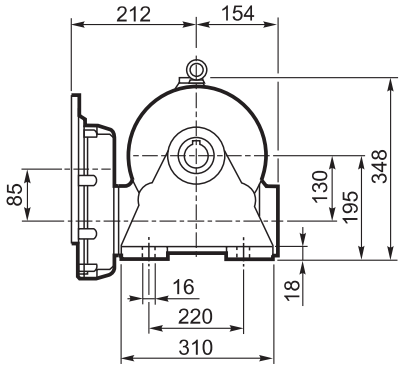
A



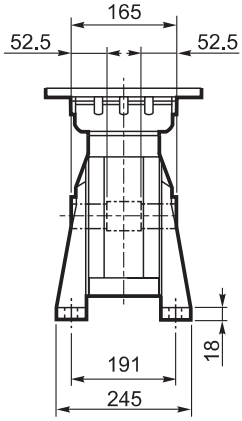


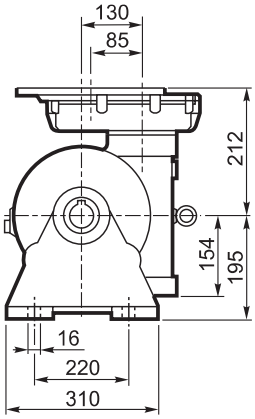
N



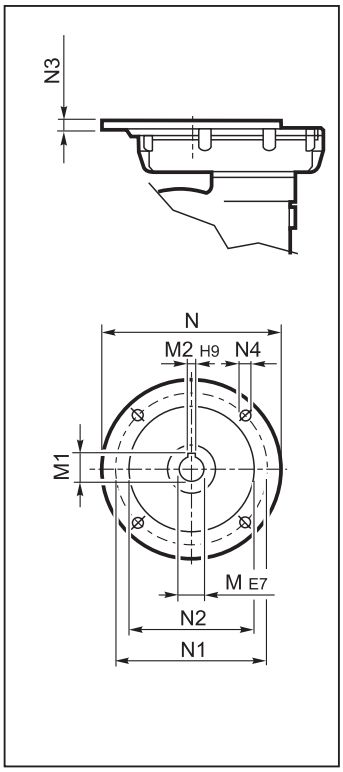


V

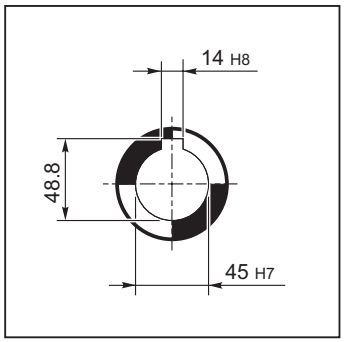




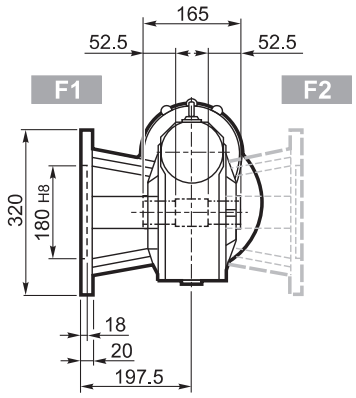
INPUT

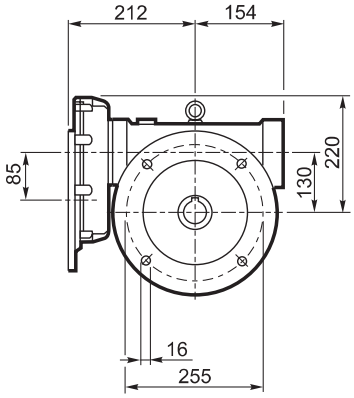


OUTPUT

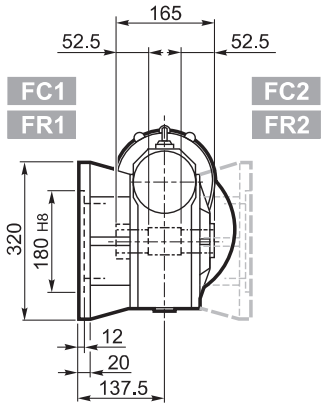


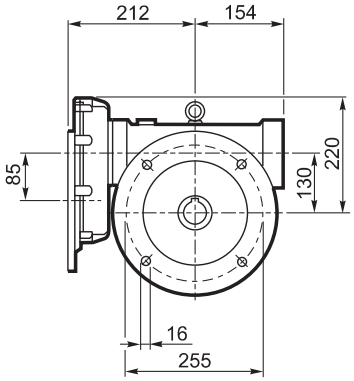
F_



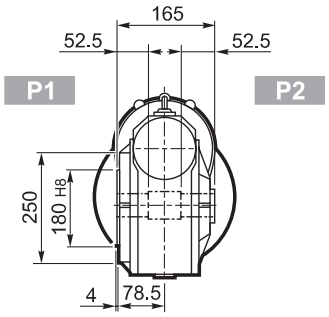


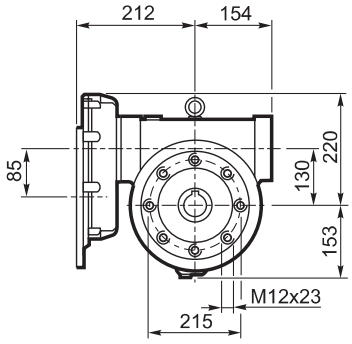
FC_
FR_



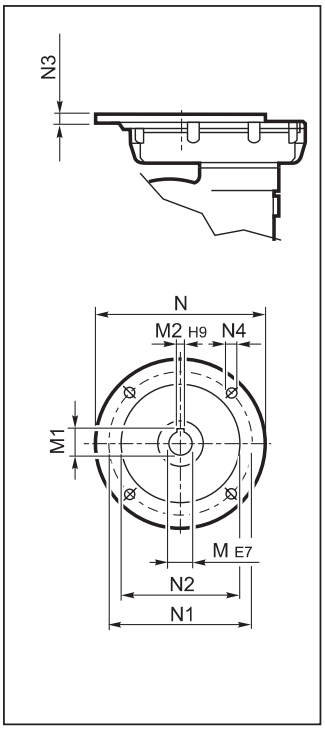


P_

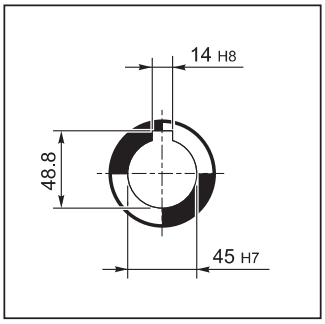




INPUT



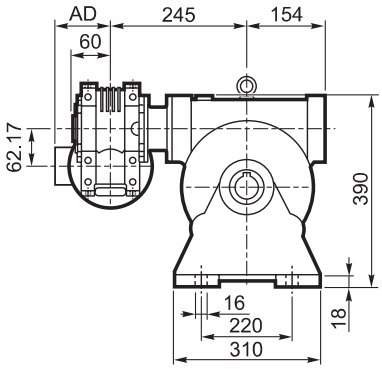
OUTPUT

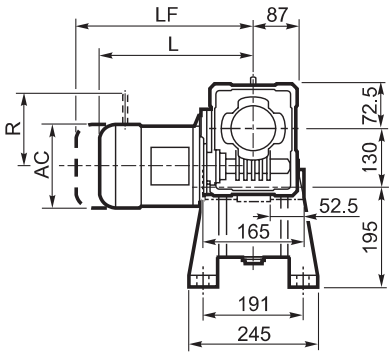


VFR 130										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VFR 130	**P80 B5**	19 K6	21.8	6	200	165	130	12	M10x25	57
VFR 130	**P90 B5**	24 K6	27.3	8	200	165	130	12	M10x25	
VRF 130	**P100 B5**	28 J6	29.1#	8	250	215	180	13	M12x35	
VRF 130	**P112 B5**	28 J6	29.1#	8	250	215	180	13	M12x35	

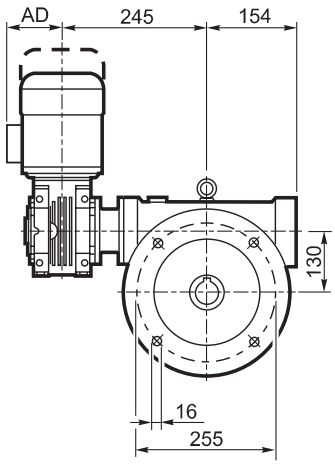
Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

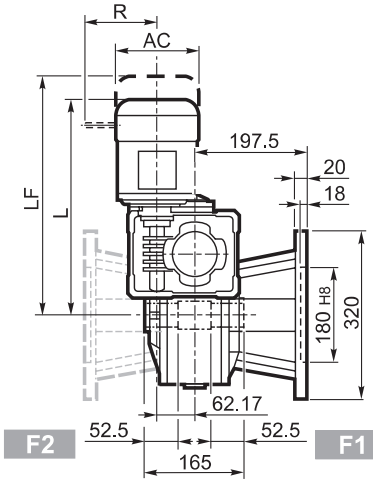
A



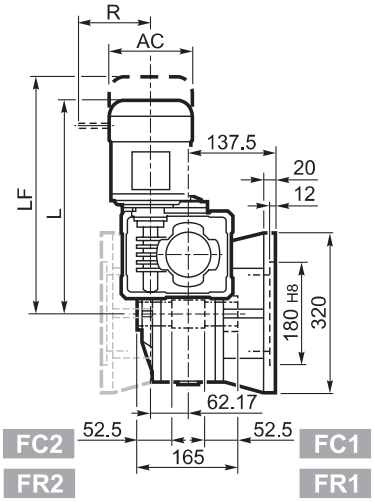


F_
FC_
FR_



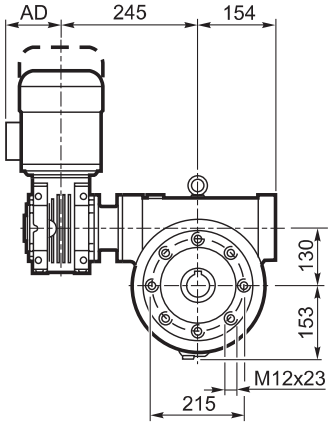


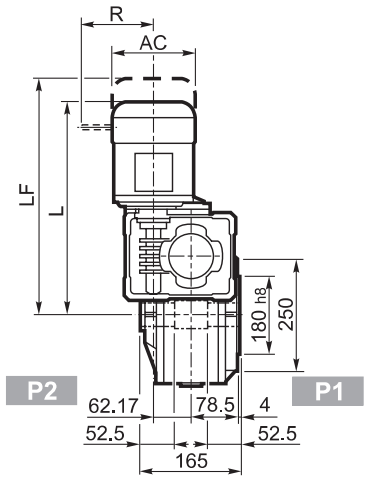
F2 F1



FC2 FC1
FR2 FR1

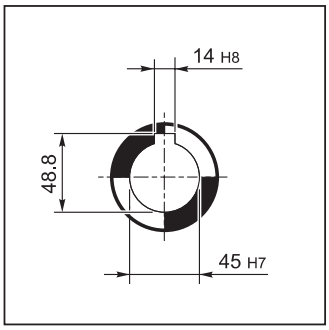
P_





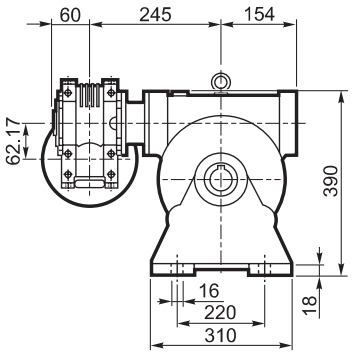
P2 P1

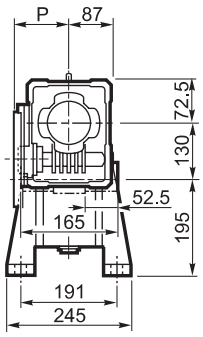
OUTPUT



W/VF 63/130												
			M_				M...FD M...FA		M...FD		M...FA	
			AC	L	AD	Kg	LF	Kg	R	AD	R	AD
W/VF 63/130	S1	M1	138	419	108	63	480	65	103	132	124	108
W/VF 63/130	S2	M2S	156	447	119	68	523	71	129	143	134	119

A





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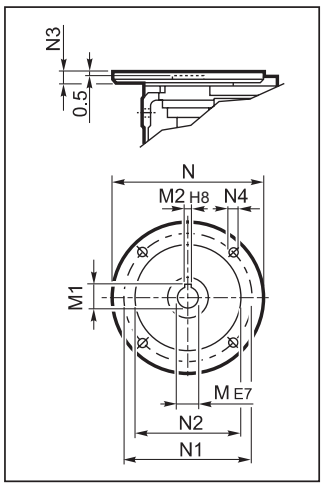
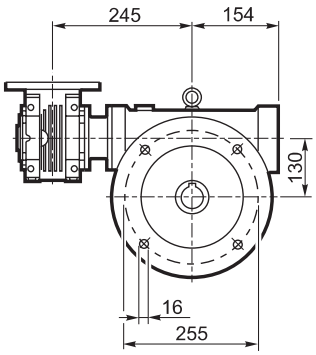
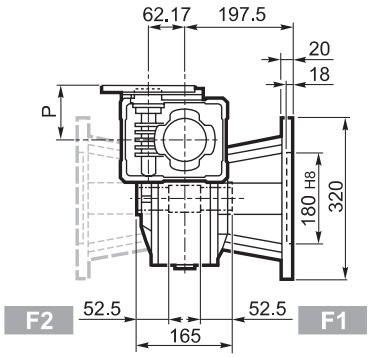
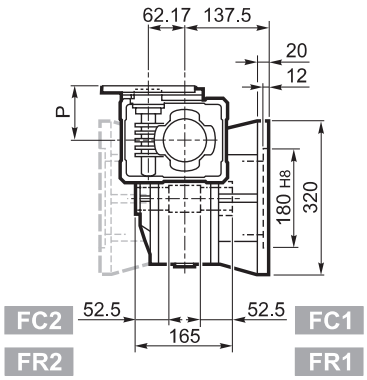


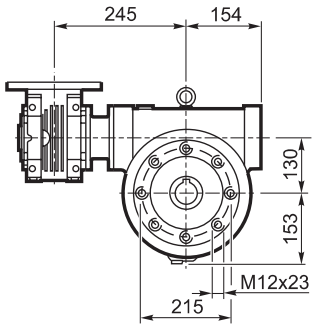
F_
FC_
FR_

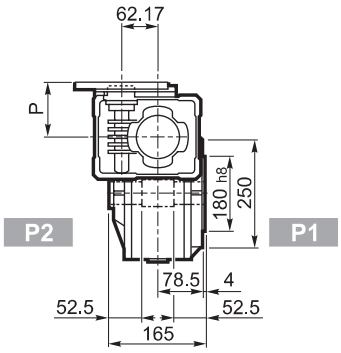




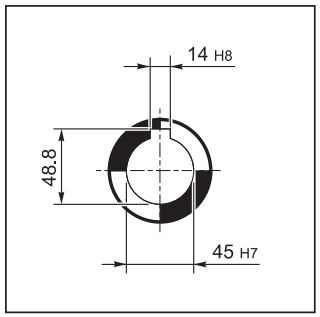


P_





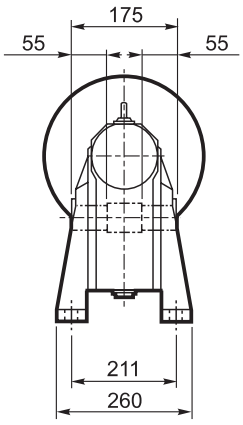
OUTPUT

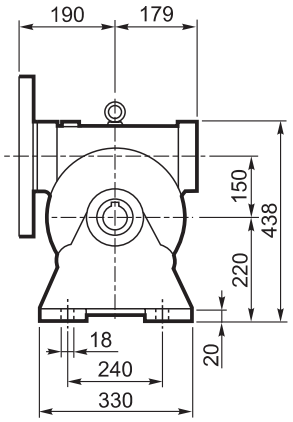


W/VF 63/130

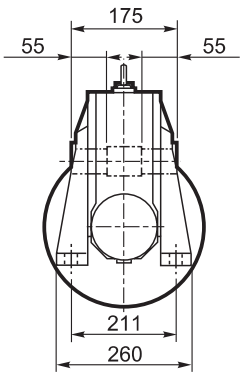
		M	M1	M2	N	N1	N2	N3	N4	P	Kg
W/VF 63/130	**P71 B5**	14	16.3	5	160	130	110	11	9	95	57
W/VF 63/130	**P80 B5**	19	21.8	6	200	165	130	12	11.5	102	
W/VF 63/130	**P90 B5**	24	27.3	8	200	165	130	12	11.5	102	
W/VF 63/130	**P71 B14**	14	16.3	5	105	85	70	11	6.5	95	
W/VF 63/130	**P80 B14**	19	21.8	6	120	100	80	11	6.5	102	
W/VF 63/130	**P90 B14**	24	27.3	8	140	115	95	11	8.5	102	

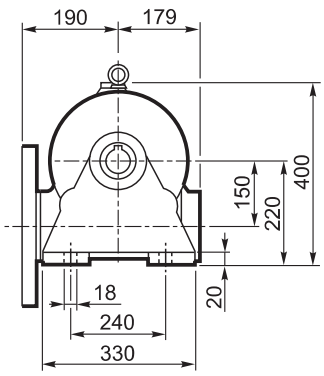
A



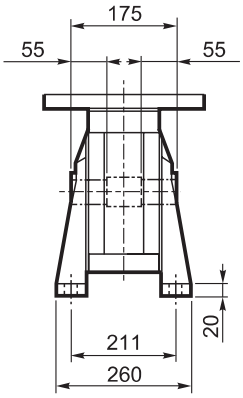


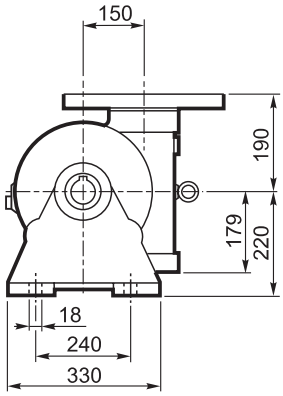
N



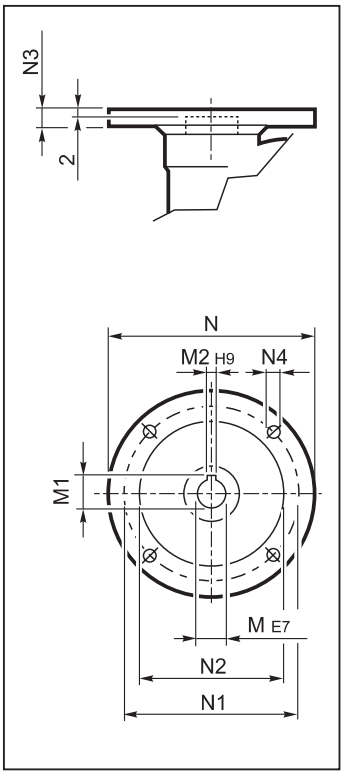


V

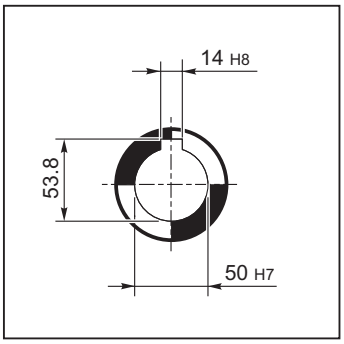




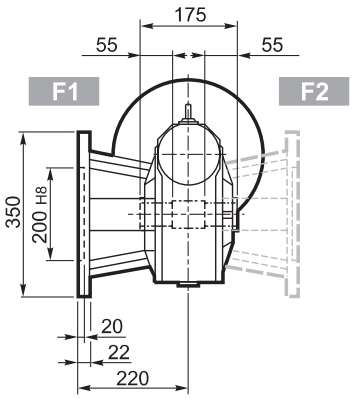
INPUT

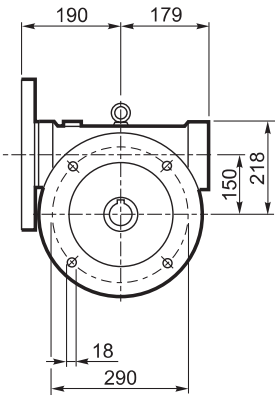


OUTPUT

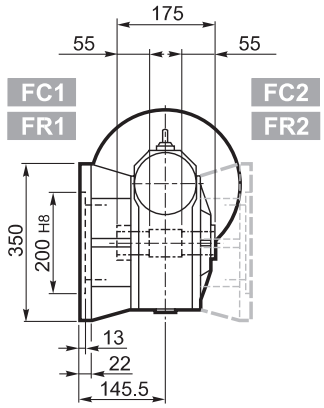


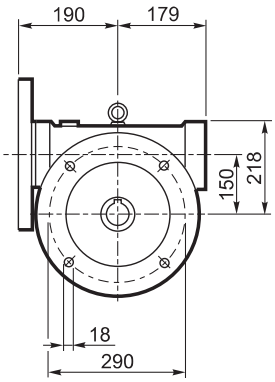
F_



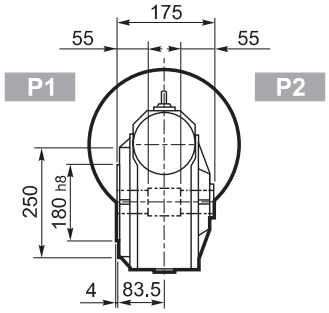


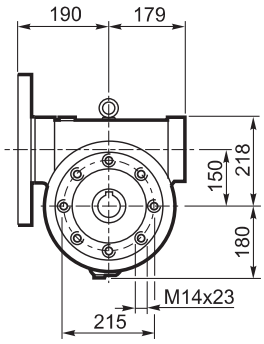
FC_
FR_



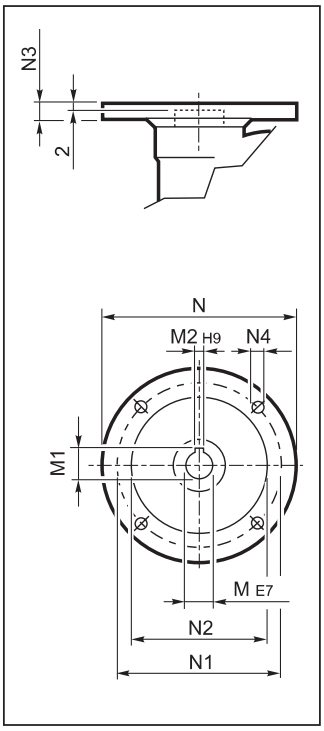


P_

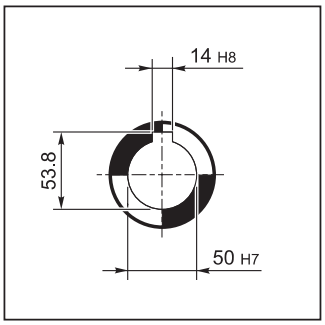




INPUT



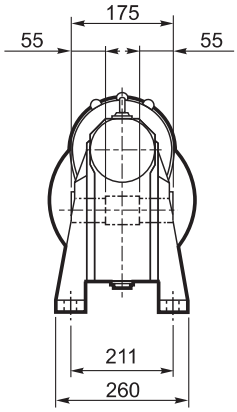
OUTPUT

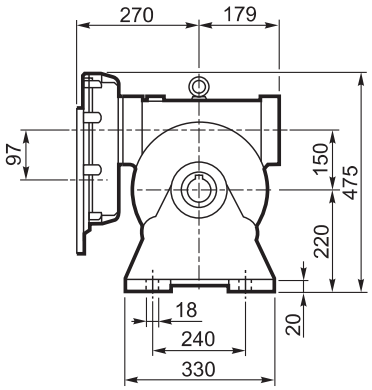


VF 150										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VF 150	P100 B5	28	31.3	8	250	215	180	11	13	60
VF 150	P112 B5	28	31.3	8	250	215	180	11	13	
VF 150	P132 B5	38	41.3	10	300	265	230	16	13	
VF 150	P160 B5	42	44.6#	12	350	300	250	18	18	

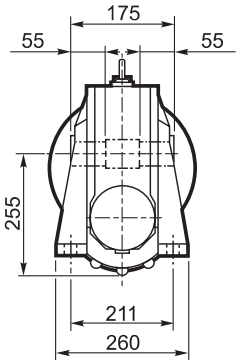
Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

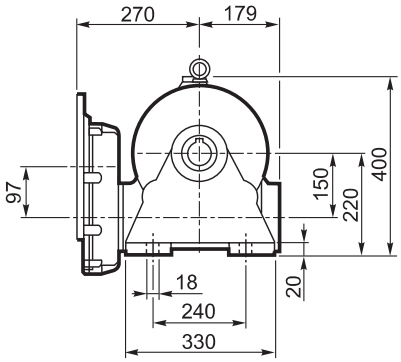
A



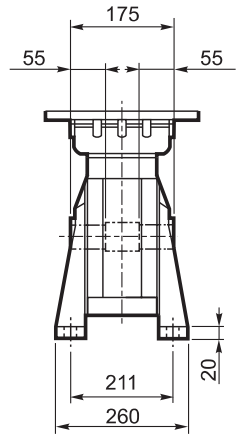


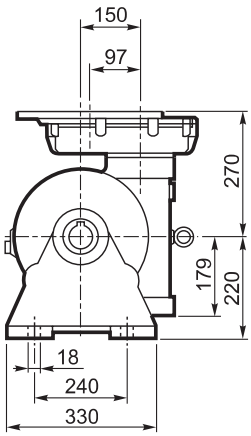
N



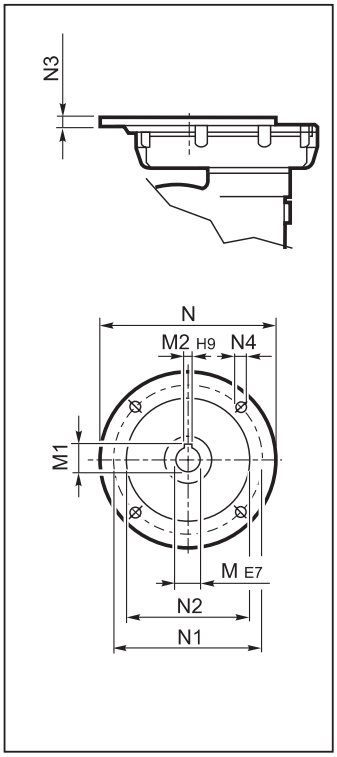


V

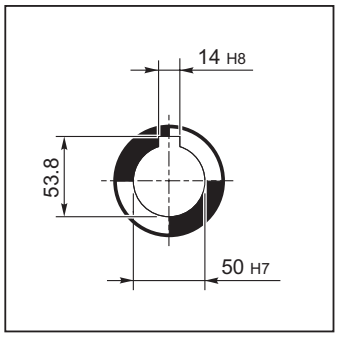




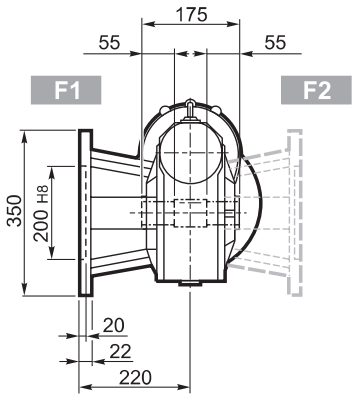
INPUT

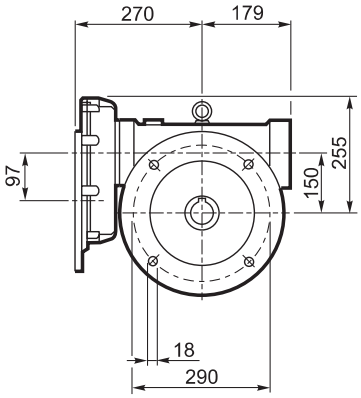


OUTPUT

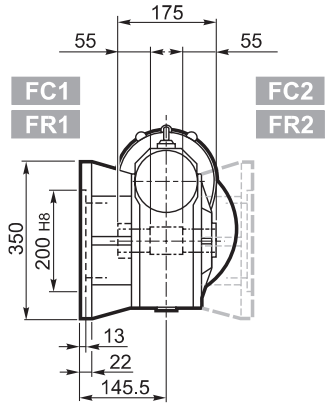


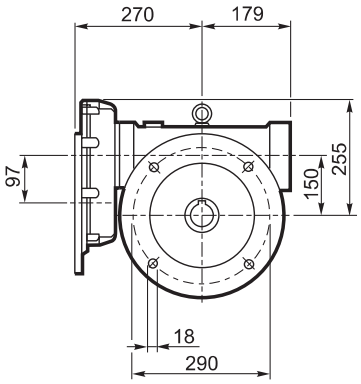
F_



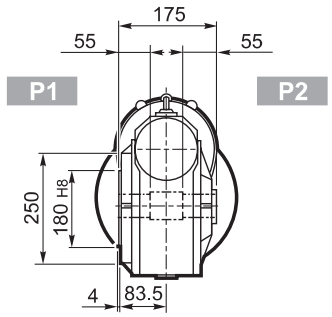


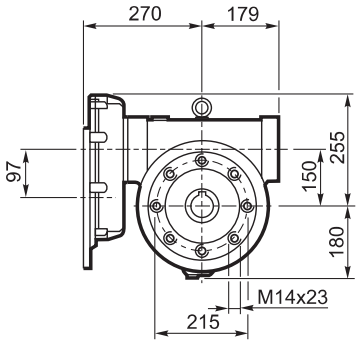
FC_
FR_



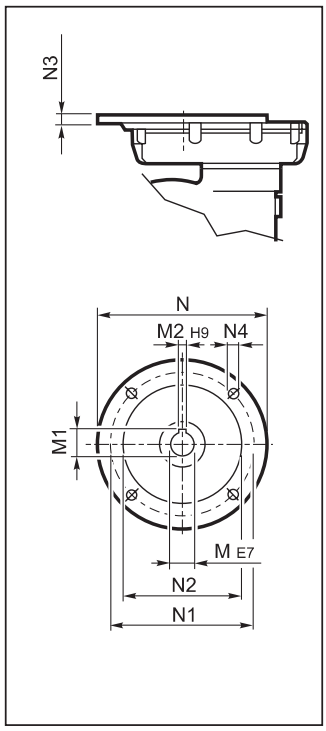


P_

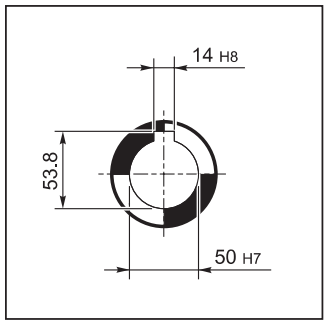




INPUT



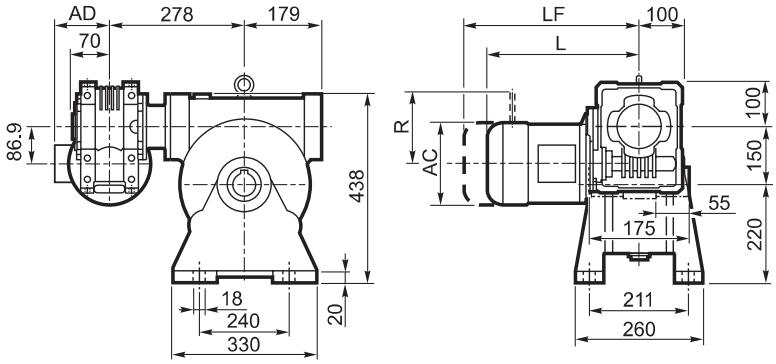
OUTPUT



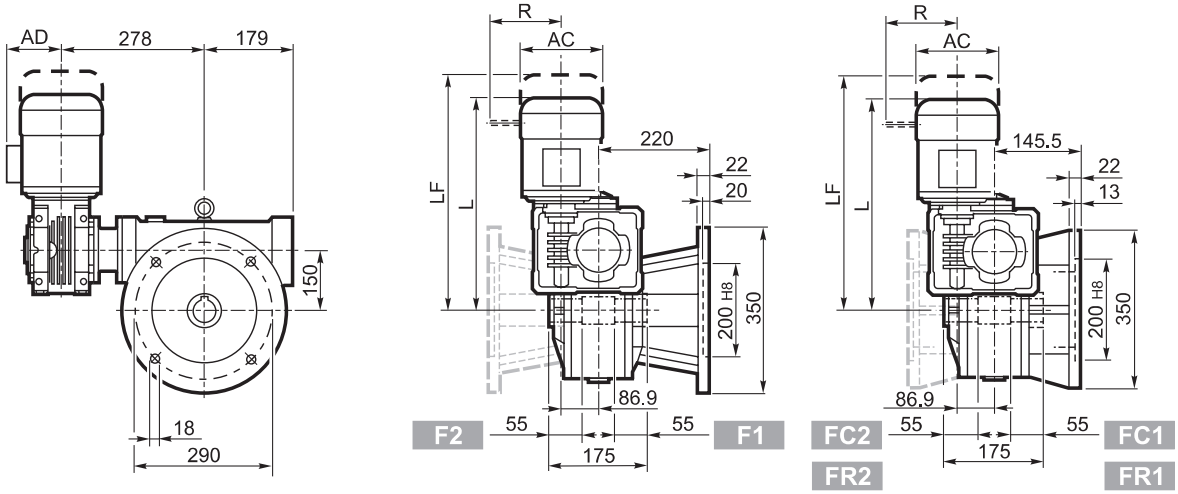
VFR 150										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VFR 150	**P90 B5**	24 K6	27.3	8	200	165	130	13	M10x25	71
VRF 150	**P100 B5**	28 K6	31.3	8	250	215	180	13	M12x35	
VRF 150	**P112 B5**	28 J6	31.3	8	250	215	180	13	M12x35	
VFR 150	**P132 B5**	38 J6	39.6#	10	300	265	230	13	M12x35	

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

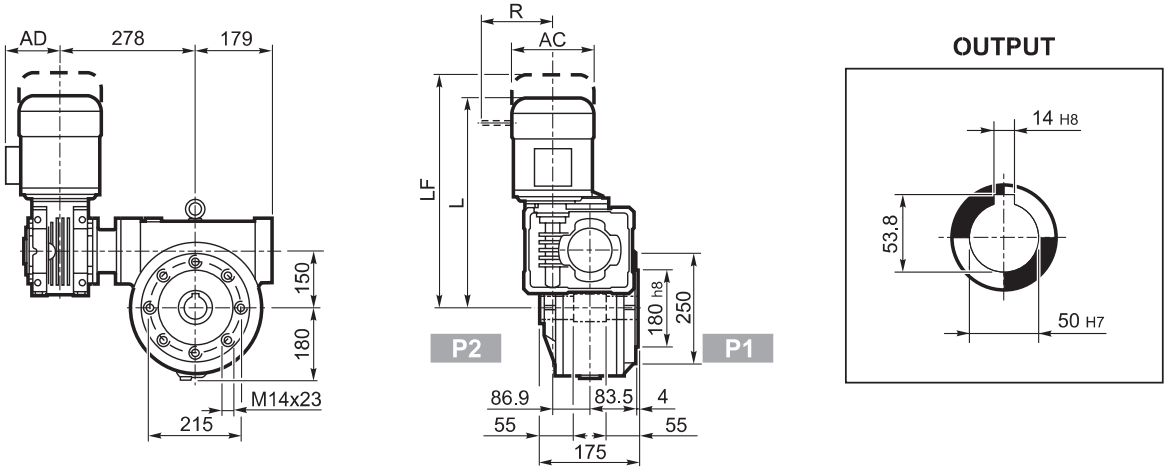
A



F_
FC_
FR_

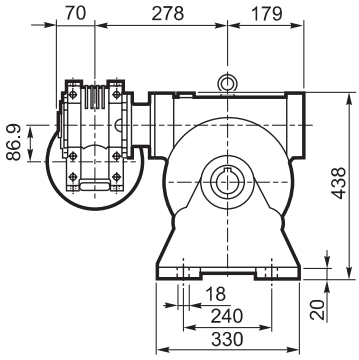


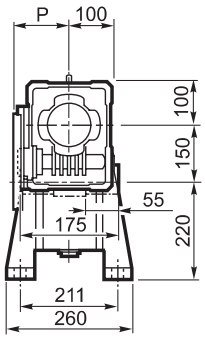
P_



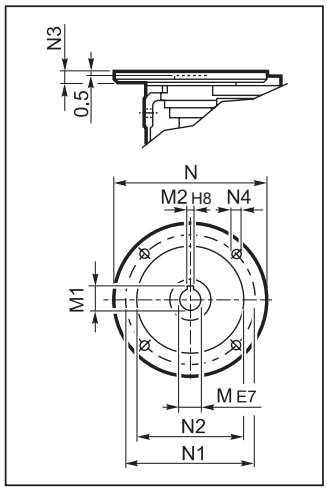
W/VF 86/150												
			M_				M...FD M...FA		M...FD		M...FA	
			AC	L	AD	Kg	LF	Kg	R	AD	R	AD
W/VF 86/150	S1	M1	138	474	108	82	385	84	103	132	124	108
W/VF 86/150	S2	M2S	156	499	119	86	425	89	129	143	134	119
W/VF 86/150	S3	M3S	193	542	142	91	488	97	160	155	160	142
W/VF 86/150	S3	M3L	193	574	142	99	515	104	160	155	160	142

A

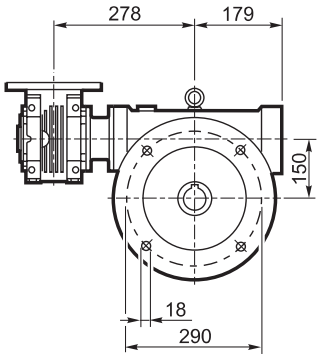


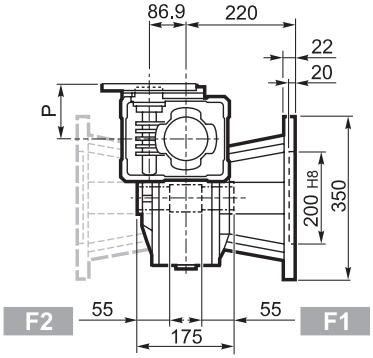


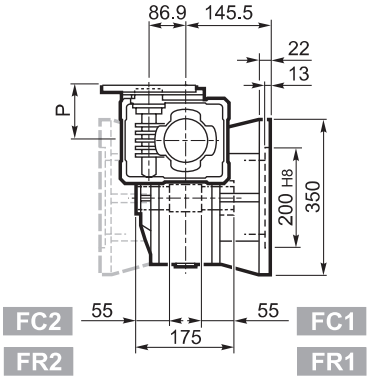
INPUT



F_
FC_
FR_







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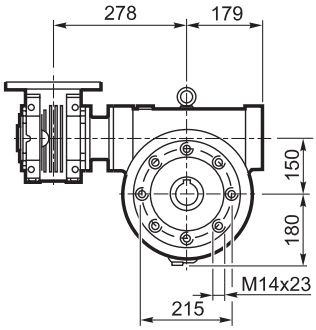
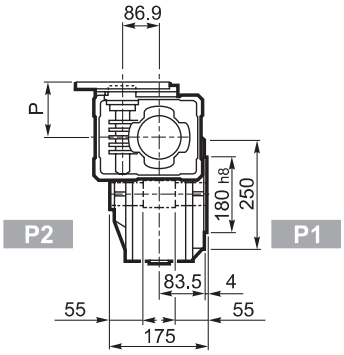
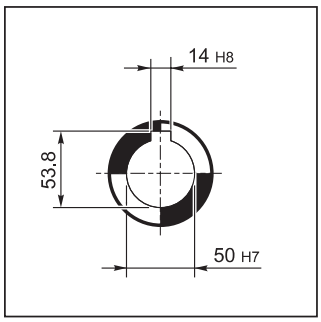




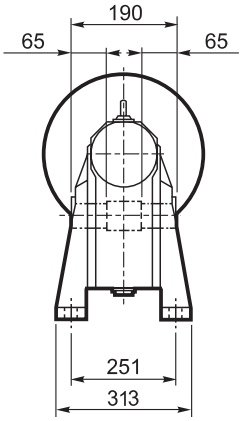
OUTPUT

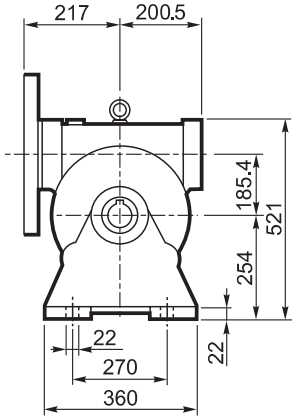


W/VF 86/150

		M	M1	M2	N	N1	N2	N3	N4	P	Kg
W/VF 86/150	**P71 B5**	14	16.3	5	160	130	110	11	9	128	
W/VF 86/150	**P80 B5**	19	21.8	6	200	165	130	12	11.5	128	
W/VF 86/150	**P90 B5**	24	27.3	8	200	165	130	12	11.5	128	
W/VF 86/150	**P100 B5**	28	31.3	8	250	215	180	13	12.5	136	
W/VF 86/150	**P112 B5**	28	31.3	8	250	215	180	13	12.5	136	75
W/VF 86/150	**P80 B14**	19	21.8	6	120	100	80	7.5	6.5	128	
W/VF 86/150	**P90 B14**	24	27.3	8	140	115	95	7.5	8.5	128	
W/VF 86/150	**P100 B14**	28	31.3	8	160	130	110	10	8.5	136	
W/VF 86/150	**P112 B14**	28	31.3	8	160	130	110	10	8.5	136	

A





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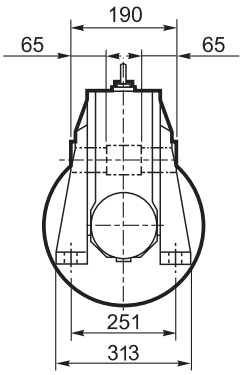

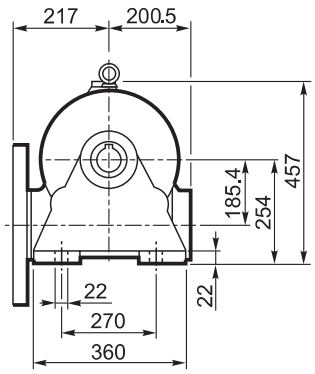

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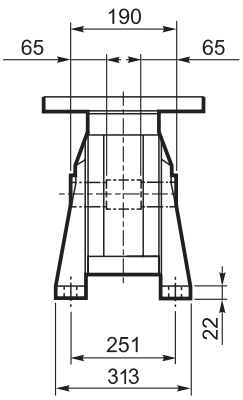
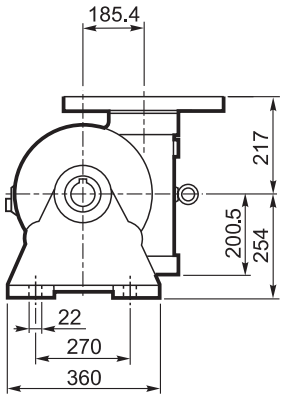
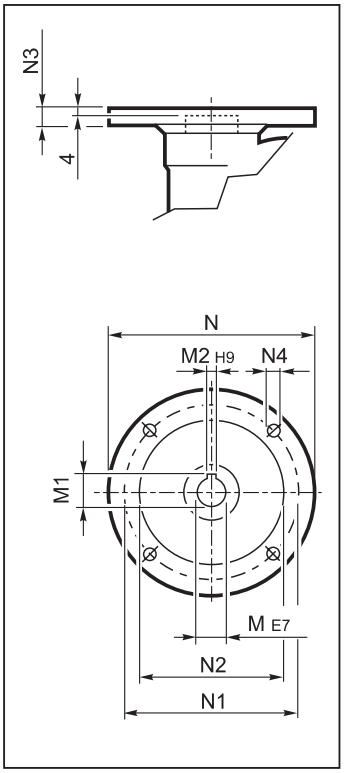
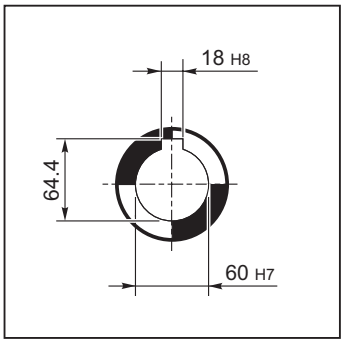




INPUT



OUTPUT



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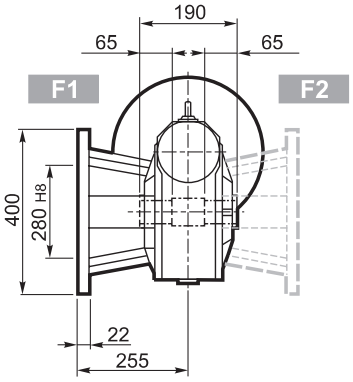

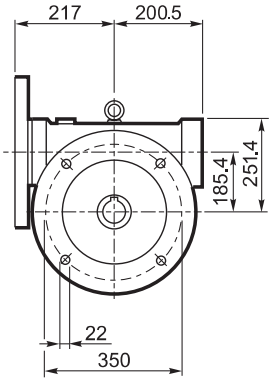

FC_
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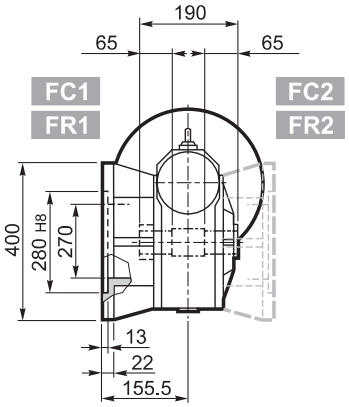
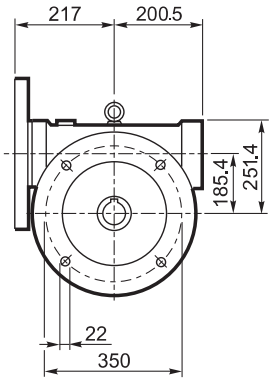
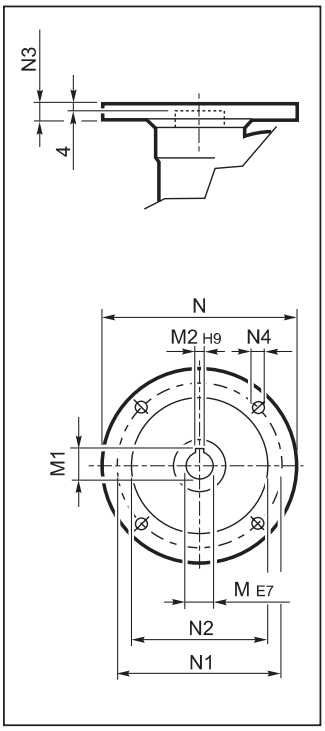




INPUT



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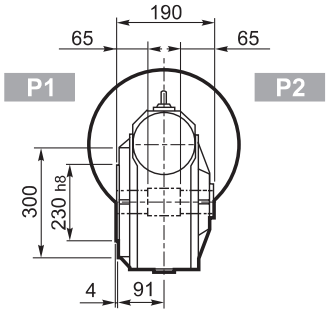
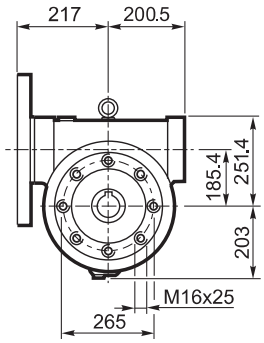
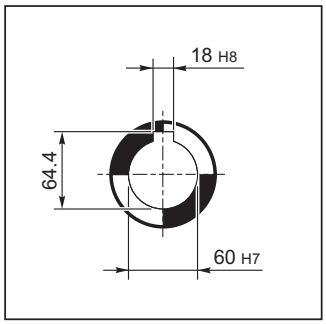




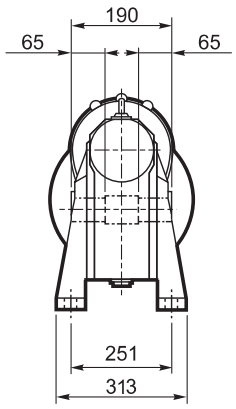
OUTPUT

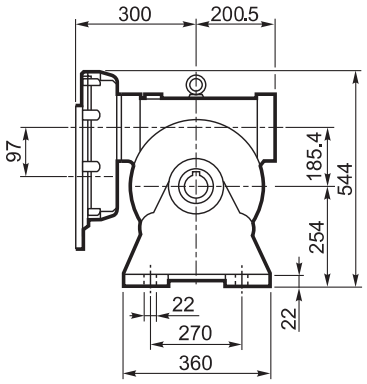


VF 185										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VF 185	P100 B5	28	31.3	8	250	215	180	16	13	
VF 185	P112 B5	28	31.3	8	250	215	180	16	13	
VF 185	P132 B5	38	41.3	10	300	265	230	16	13	94
VF 185	P160 B5	42	45.3	12	350	300	250	18	18	
VF 185	P180 B5	48	51.2#	14	350	300	250	18	18	

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

A





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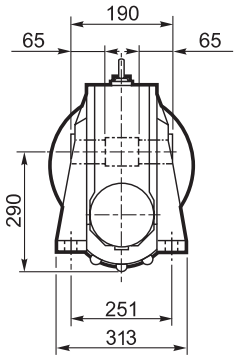
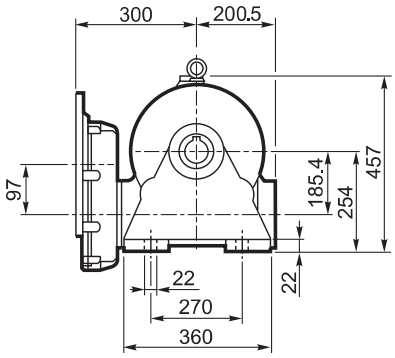
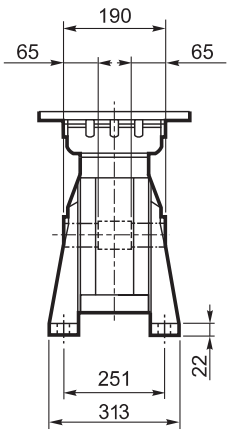
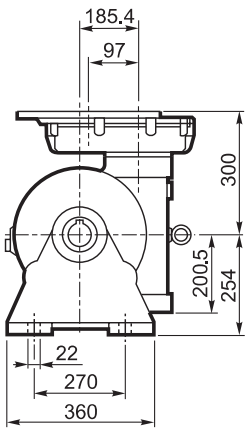


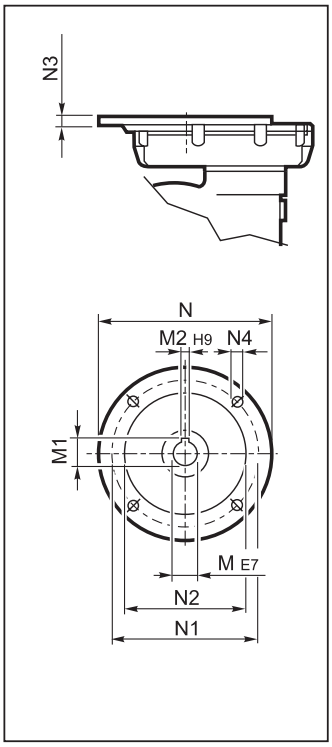


V

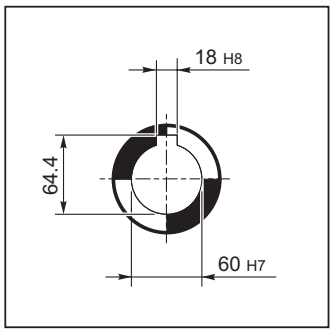




INPUT



OUTPUT



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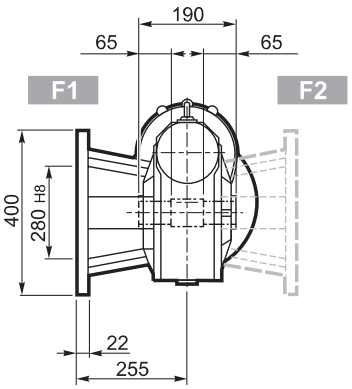
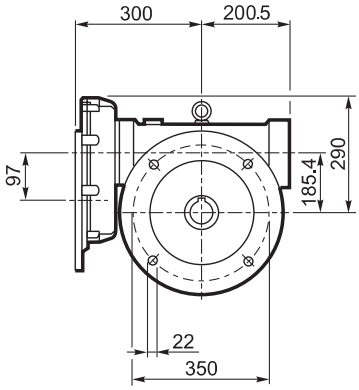
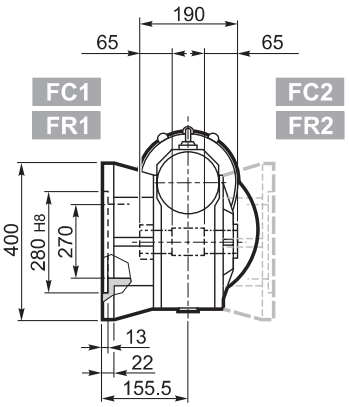
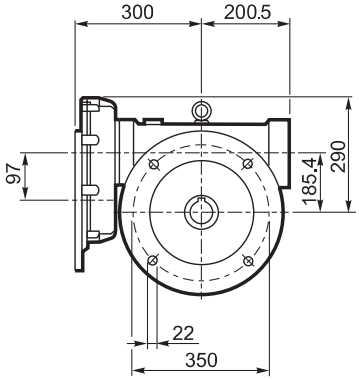


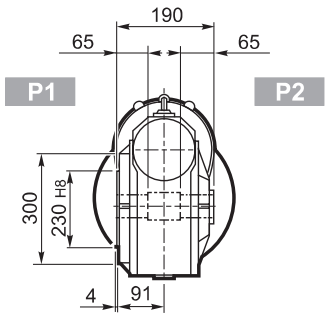


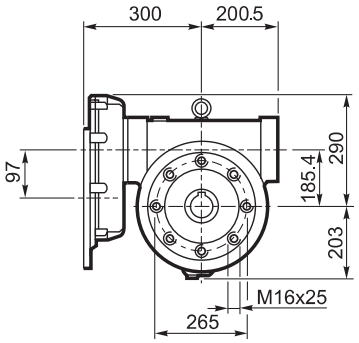
FC_
FR_



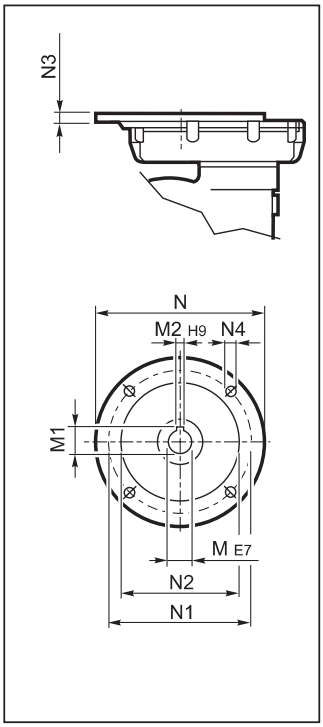


P_

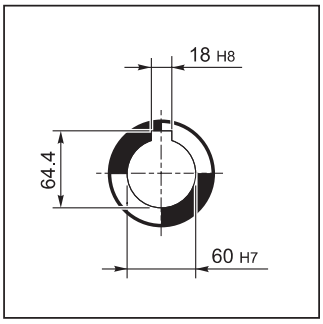




INPUT



OUTPUT

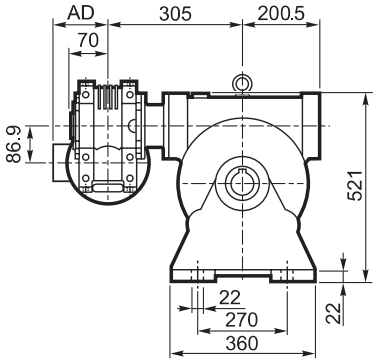


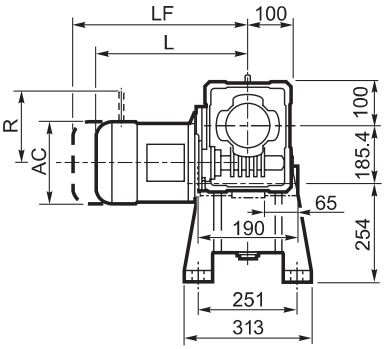
VFR 185										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VFR 185	P90 B5	24 K6	27.3	8	200	165	130	13	M10x25	110
VRF 185	P100 B5	28 K6	31.3	8	250	215	180	13	M12x35	
VRF 185	P112 B5	28 K6	31.3	8	250	215	180	13	M12x35	
VFR 185	P132 B5	38 J6	39.6#	10	300	265	230	13	M12x35	

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

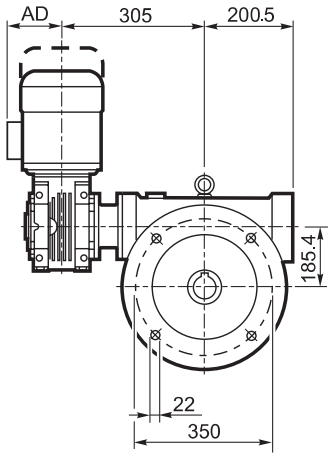
W/VF 86/185...M

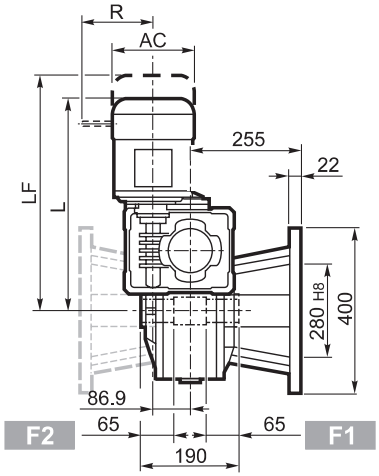
A

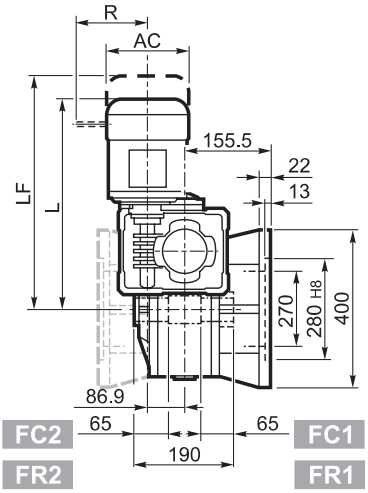




F_
FC_
FR_







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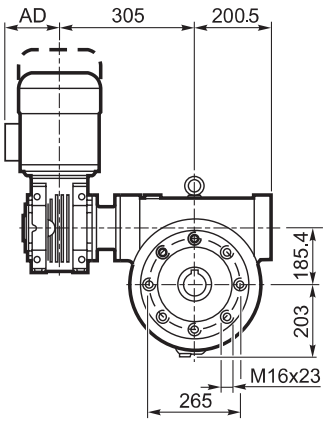
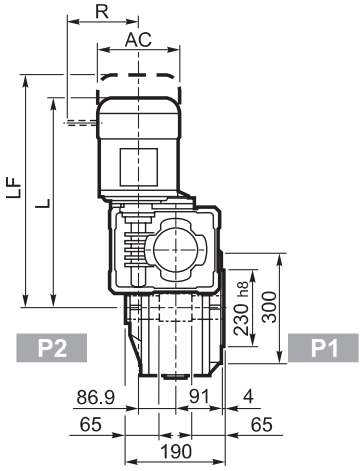
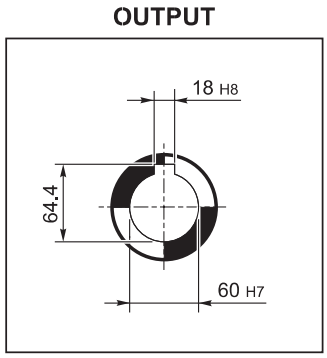


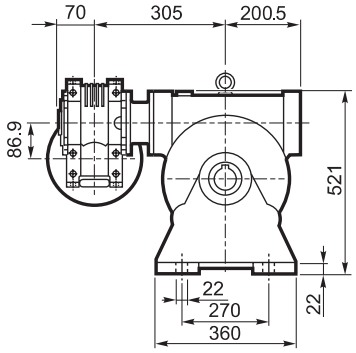


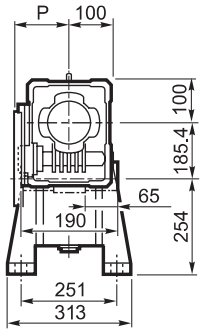


W/VF 86/185

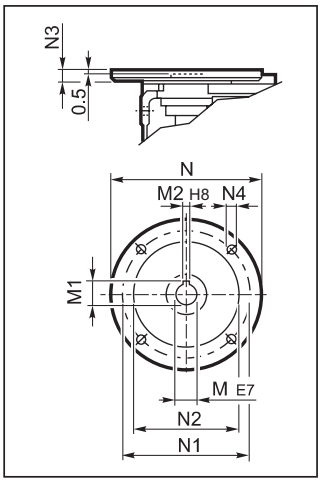
			M_				M...FD M...FA		M...FD		M...FA	
			AC	L	AD	Kg	LF	Kg	R	AD	R	AD
W/VF 86/185	**S1**	**M1**	138	509	108	116	570	118	103	132	124	108
W/VF 86/185	**S2**	**M2S**	156	534	119	120	610	123	129	143	134	119
W/VF 86/185	**S3**	**M3S**	193	577	142	125	673	131	160	155	160	142
W/VF 86/185	**S3**	**M3L**	193	609	142	133	700	138	160	155	160	142

A

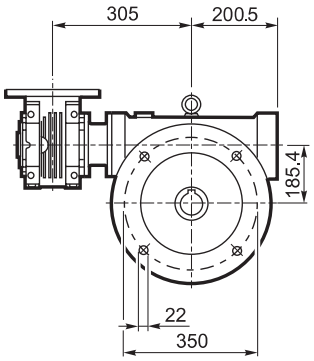


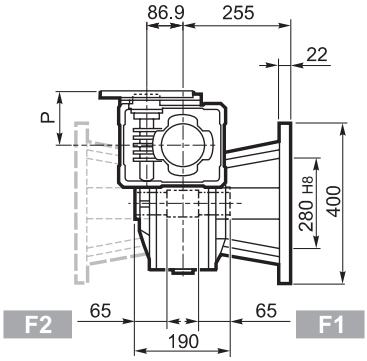


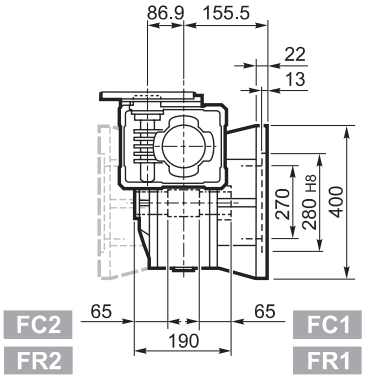
INPUT



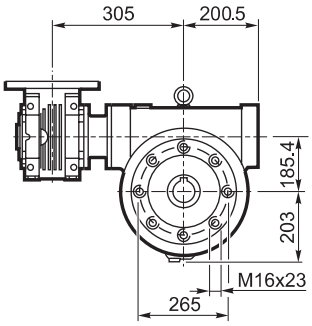
F_
FC_
FR_

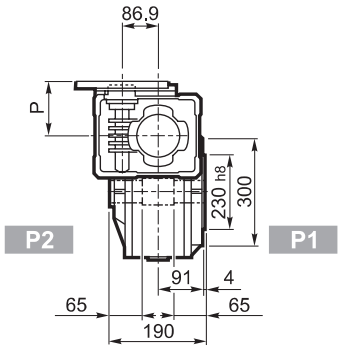




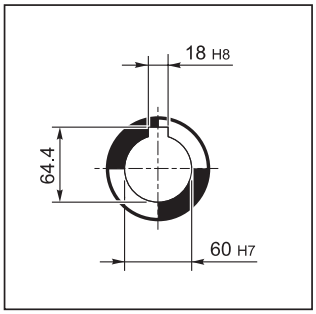


P_





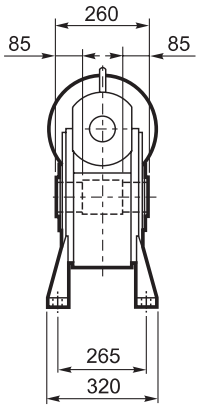
OUTPUT

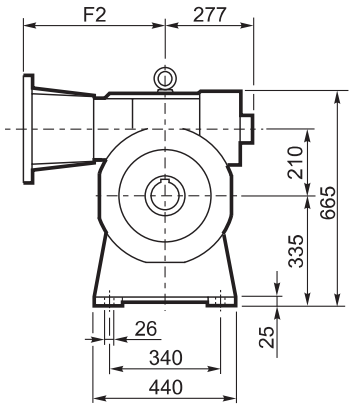


W/VF 86/185

		M	M1	M2	N	N1	N2	N3	N4	P	Kg
W/VF 86/185	**P71 B5**	14	16.3	5	160	130	110	11	9	128	
W/VF 86/185	**P80 B5**	19	21.8	6	200	165	130	12	11.5	128	
W/VF 86/185	**P90 B5**	24	27.3	8	200	165	130	12	11.5	128	
W/VF 86/185	**P100 B5**	28	31.3	8	250	215	180	13	12.5	136	
W/VF 86/185	**P112 B5**	28	31.3	8	250	215	180	13	12.5	136	109
W/VF 86/185	**P80 B14**	19	21.8	6	120	100	80	7.5	6.5	128	
W/VF 86/185	**P90 B14**	24	27.3	8	140	115	95	7.5	8.5	128	
W/VF 86/185	**P100 B14**	28	31.3	8	160	130	110	10	8.5	136	
W/VF 86/185	**P112 B14**	28	31.3	8	160	130	110	10	8.5	136	

A





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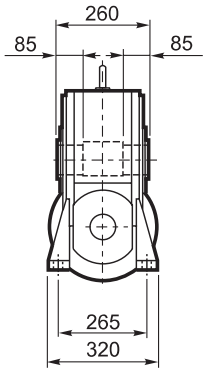

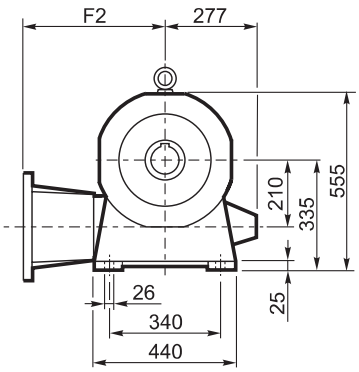

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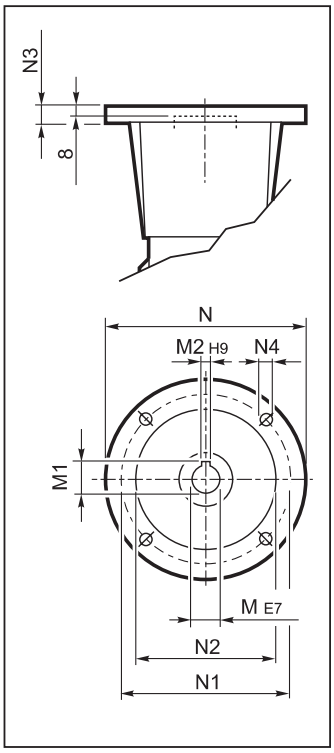

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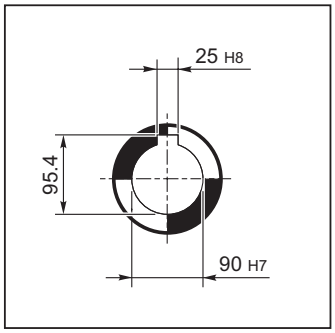

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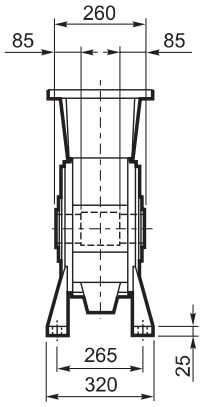

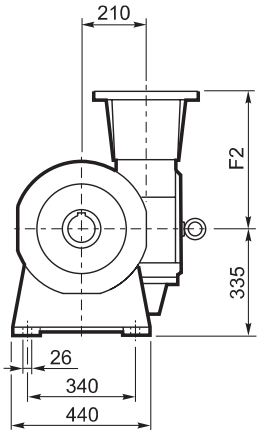

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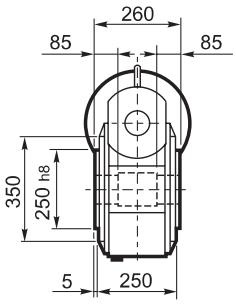
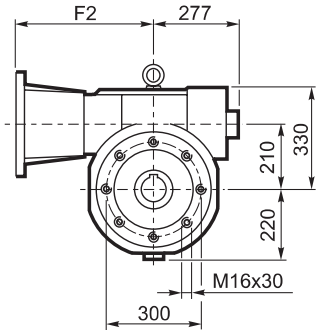
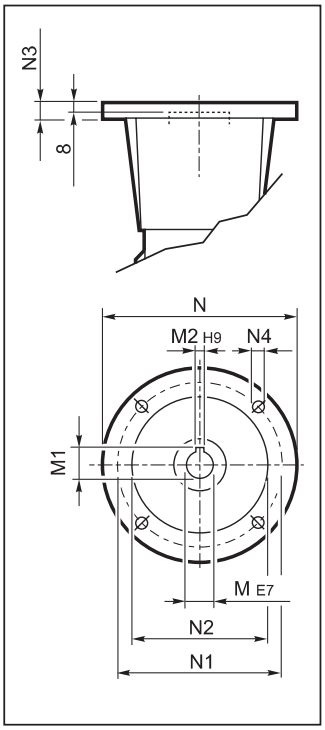




INPUT



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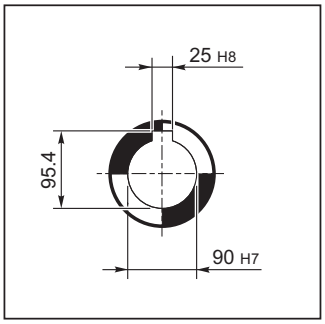


Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

Nell'esecuzione P(IEC) è prevista di serie la fornitura del giunto completo per attacco motore.

Fan cooling as standard on versions A and P.

P(IEC) arrangements come complete with gear coupling enclosed in the bell housing.

In den Ausführungen A und P wird das Lüfterrad eingebaud.

Die Motorflansch-Ausführung wird serienmäßig mit kompletter Motorkupplung geliefert.

Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

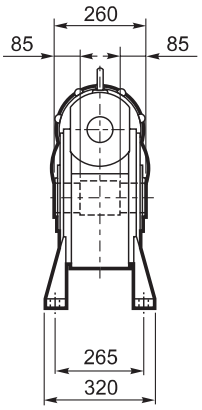
Dans la version P(IEC), la fourniture du joint complet d'accouplement moteur à été prévue de série.

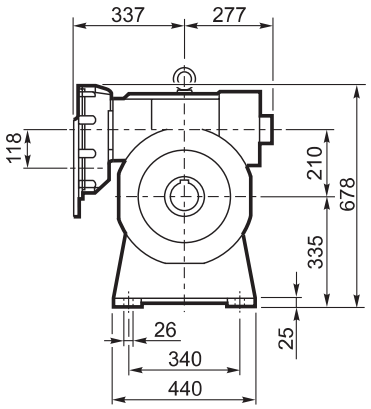
VF 210

		F2	M	M1	M2	N	N1	N2	N3	N4	Kg
VF 210	**P132 B5**	485	38	41.3	10	300	265	230	25	M12	
VF 210	**P160 B5**	460	42	45.3	12	350	300	250	22	18	
VF 210	**P180 B5**	460	48	51.8	14	350	300	250	22	18	210
VF 210	**P200 B5**	485	55	59.3	16	400	350	300	25	M16	
VF 210	**P225 B5**	490	60	64.4	18	450	400	350	22	18 #	

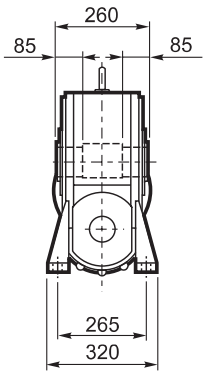
N° 8 fori a 45° / *N° 8 holes at 45°* / N. 8 Bohrungen 45° / *N. 8 trous 45°*

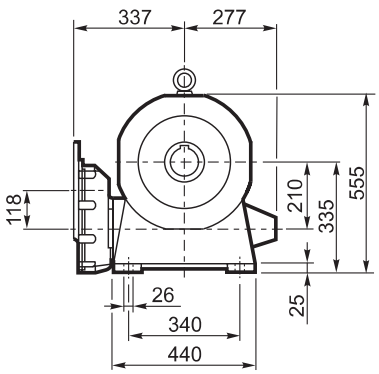
A





N





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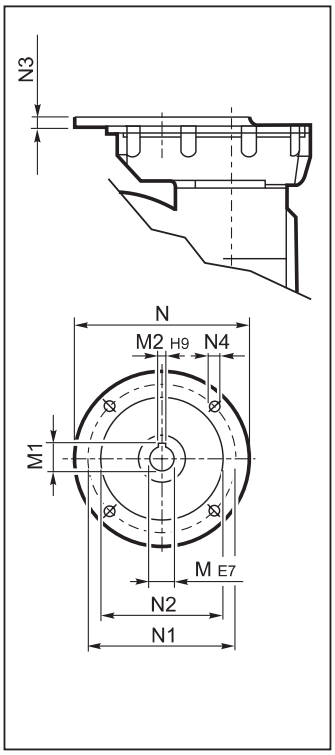
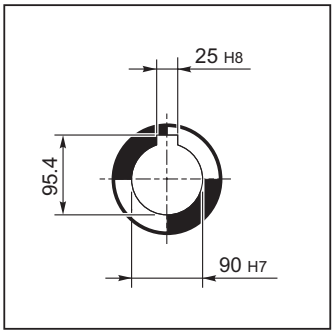


OUTPUT



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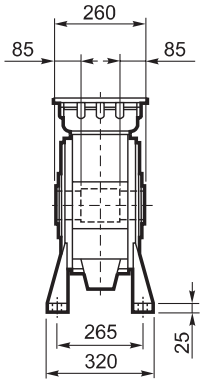
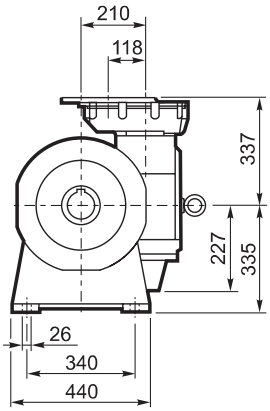
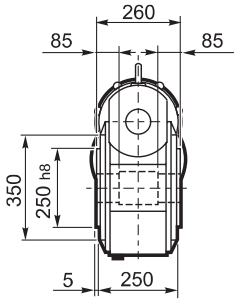
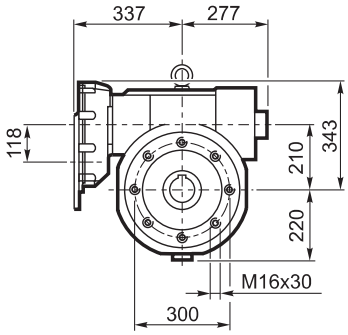




P





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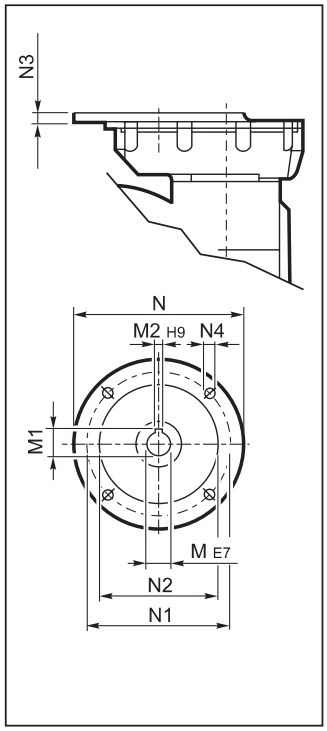
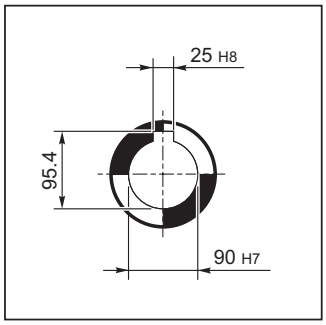


OUTPUT



Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

Fan cooling as standard on versions A and P.

In den Ausführungen A und P wird das Lüfterrad eingebaud.

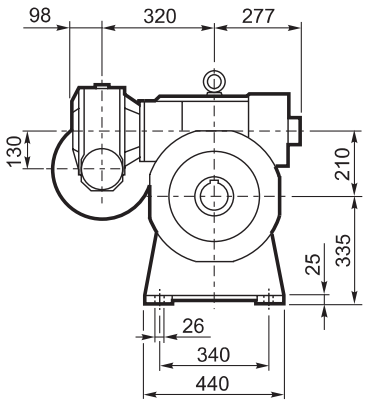
Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

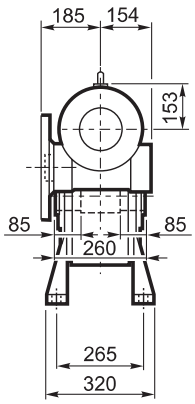
VFR 210

		M	M1	M2	N	N1	N2	N3	N4	Kg
VRF 210	**P100 B5**	28 K6	31.3	8	250	215	180	13	M12x35	185
VRF 210	**P112 B5**	28 K6	31.3	8	250	215	180	13	M12x35	
VFR 210	**P132 B5**	38 J6	41.3	10	300	265	230	13	M12x35	
VFR 210	**P160 B5**	42 J6	44.3#	12	350	300	250	18	M16x60	

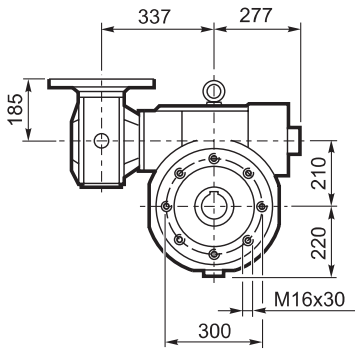
Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

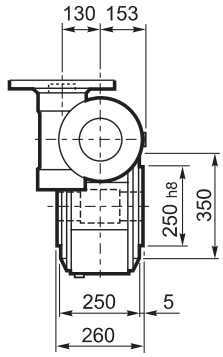
A



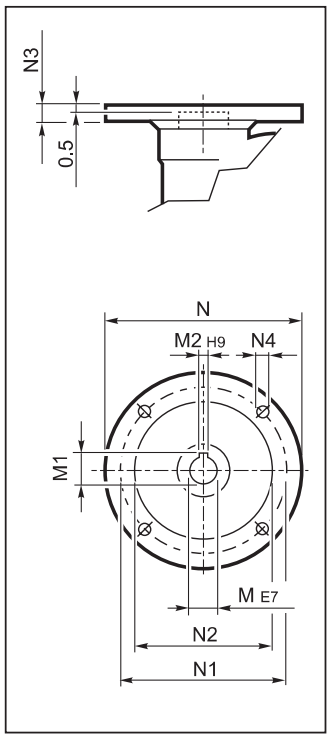


P

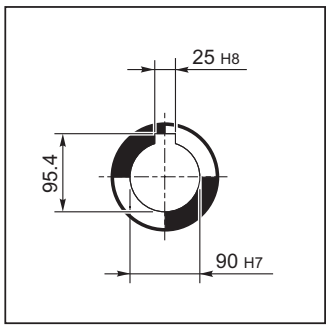




INPUT



OUTPUT



Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

Fan cooling as standard on versions A and P.

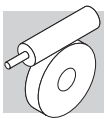
In den Ausführungen A und P wird das Lüfterrad eingebaud.

Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

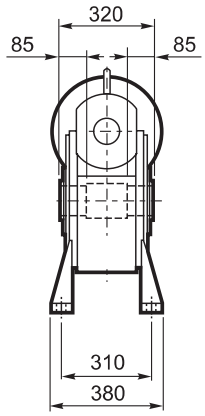
VF/VF 130/210

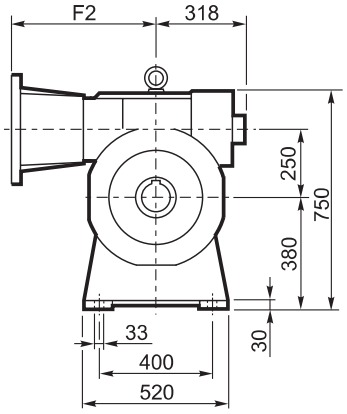
		M	M1	M2	N	N1	N2	N3	N4	kg
VF/VF 130/210	**P90 B5**	24	27.3	8	200	165	130	17	11	225
VF/VF 130/210	**P100 B5**	28	31.3	8	250	215	180	17	13	
VF/VF 130/210	**P112 B5**	28	31.3	8	250	215	180	17	13	
VF/VF 130/210	**P132 B5**	38	40.1#	10	300	265	230	17	13	

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*



A





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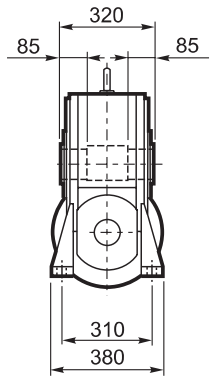
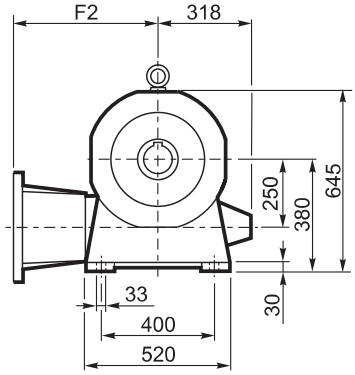
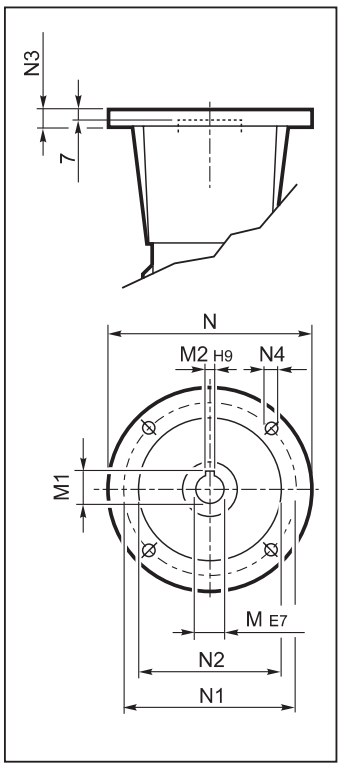
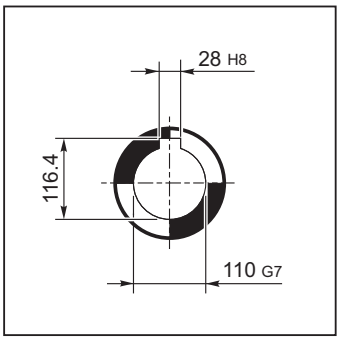




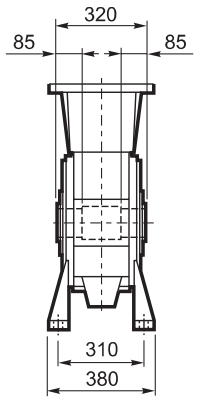
INPUT

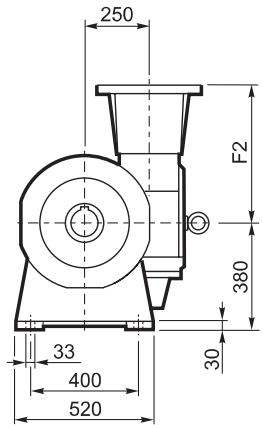


OUTPUT

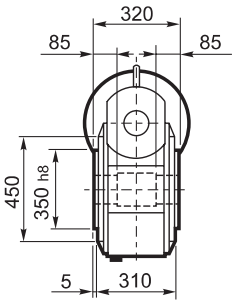


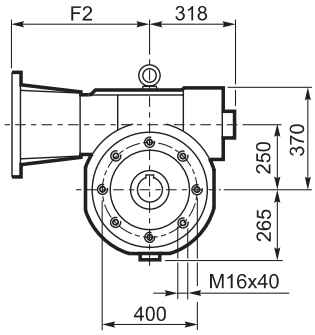
V



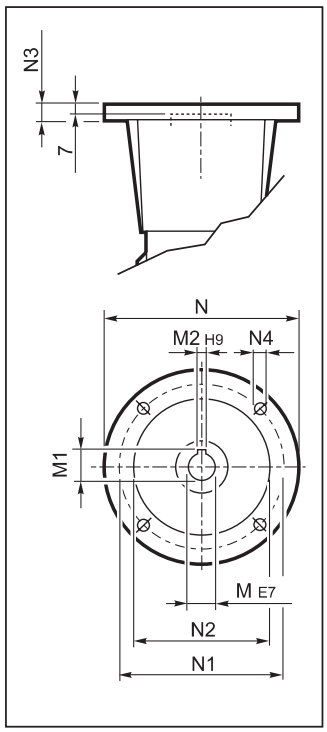


P

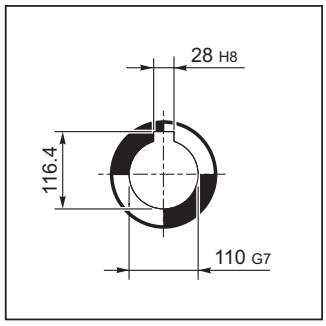




INPUT



OUTPUT



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Fan cooling as standard on versions A and P.

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Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

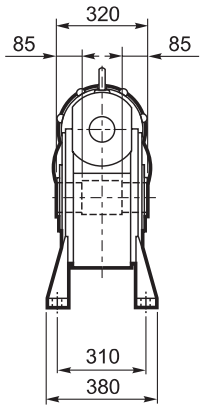
Dans la version P(IEC), la fourniture du joint complet d'accouplement moteur à été prévue de série.

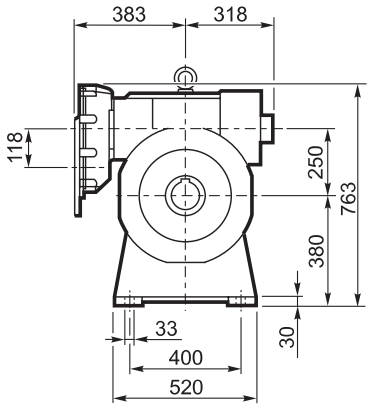
VF 250

		F2	M	M1	M2	N	N1	N2	N3	N4	Kg
VF 250	**P132 B5**	531	38	41.3	10	300	265	230	25	M12	
VF 250	**P160 B5**	506	42	45.3	12	350	300	250	22	18	
VF 250	**P180 B5**	506	48	51.8	14	350	300	250	22	18	310
VF 250	**P200 B5**	531	55	59.3	16	400	350	300	25	M16	
VF 250	**P225 B5**	536	60	64.4	18	450	400	350	22	18#	

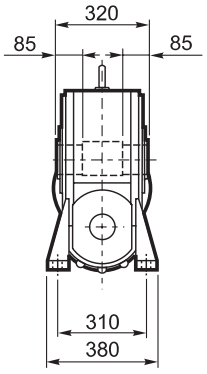
N° 8 fori a 45° / *N° 8 holes at 45°* / N. 8 Bohrungen 45° / *N. 8 trous 45°*

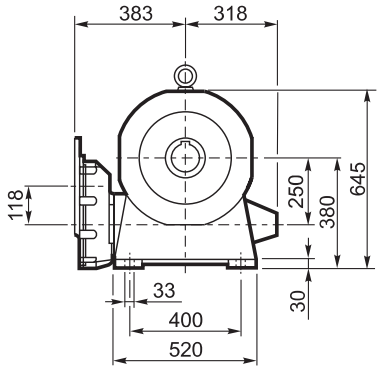
A



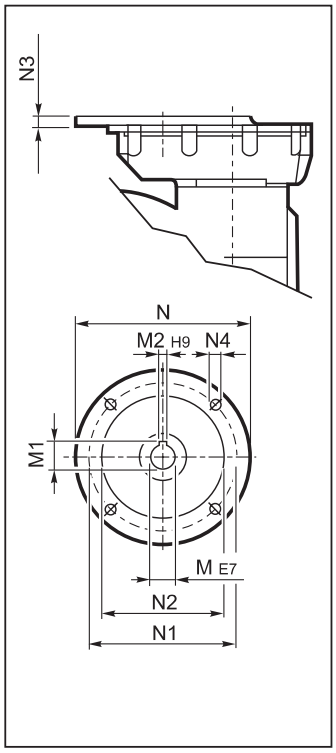


N

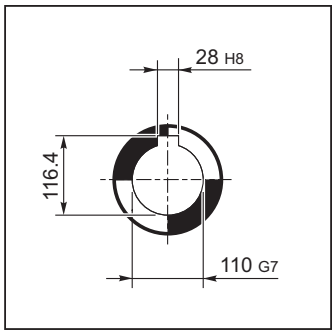




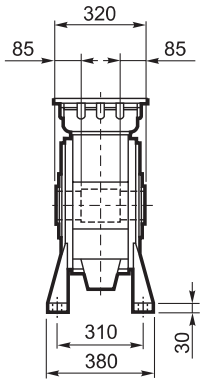
INPUT

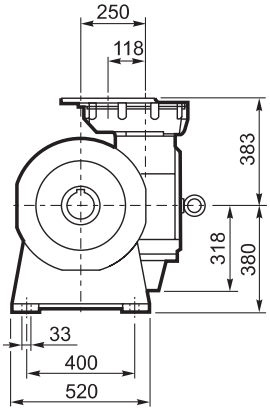


OUTPUT

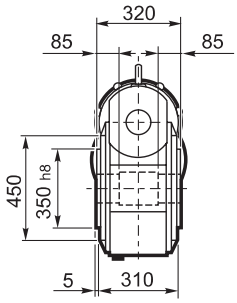


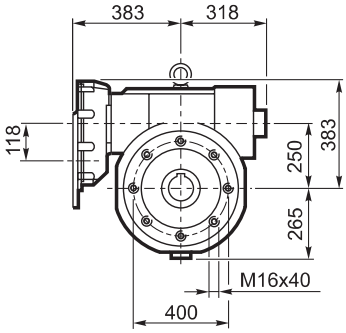
V



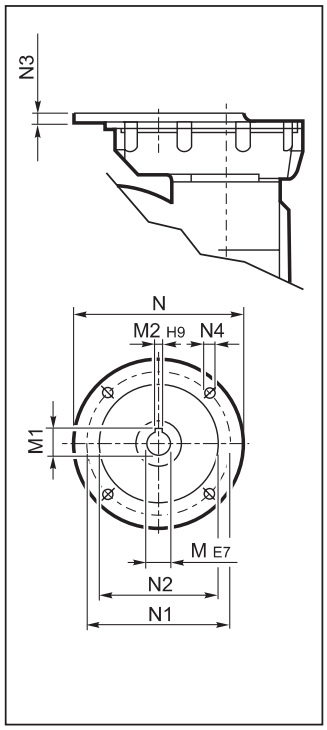


P

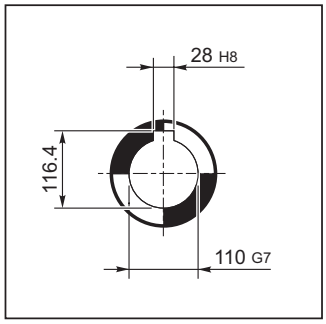




INPUT



OUTPUT



Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

Fan cooling as standard on versions A and P.

In den Ausführungen A und P wird das Lüfterrad eingebaud.

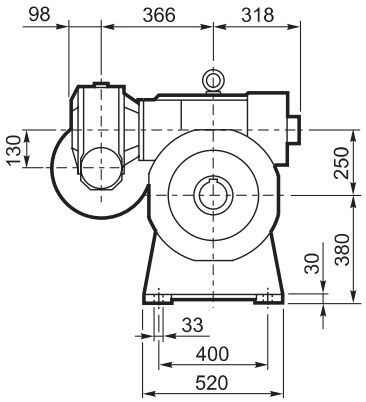
Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

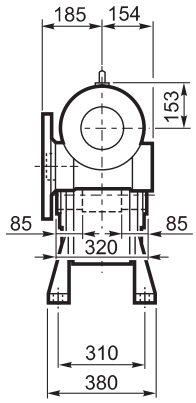
VFR 250										
		M	M1	M2	N	N1	N2	N3	N4	Kg
VRF 250	**P100 B5**	28 K6	31.3	8	250	215	180	13	M12x35	295
VRF 250	**P112 B5**	28 K6	31.3	8	250	215	180	13	M12x35	
VFR 250	**P132 B5**	38 J6	41.3	10	300	265	230	13	M12x35	
VFR 250	**P160 B5**	42 J6	44.3#	12	350	300	250	18	M16x60	

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

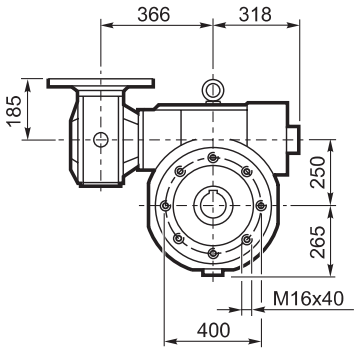
VF/VF 130/250...P(IEC)

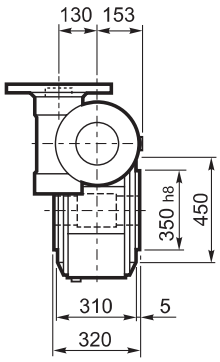
A



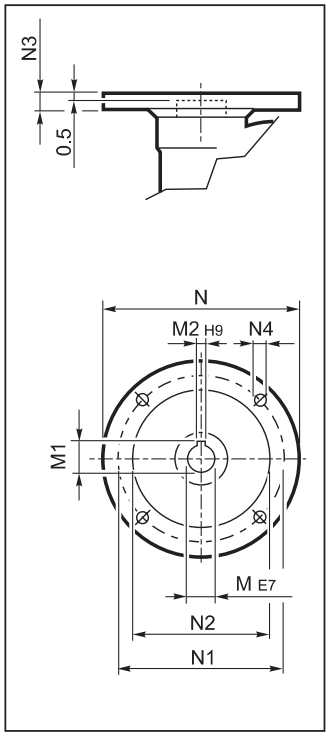


P

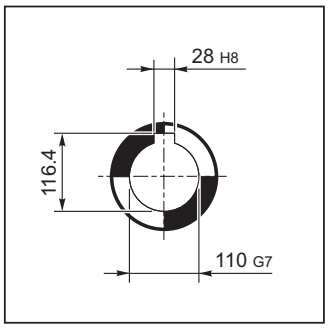




INPUT



OUTPUT



Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

Fan cooling as standard on versions A and P.

In den Ausführungen A und P wird das Lüfterrad eingebaud.

Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

VF/VF 130/250

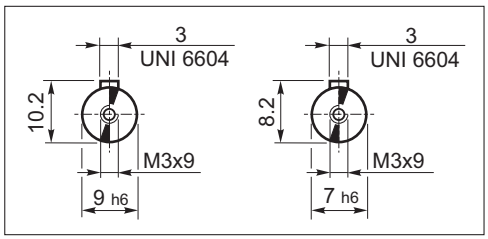
		M	M1	M2	N	N1	N2	N3	N4	Kg
VF/VF 130/250	**P 90 B5**	24	27.3	8	200	165	130	17	11	325
VF/VF 130/250	**P100 B5**	28	31.3	8	250	215	180	17	13	
VF/VF 130/250	**P112 B5**	28	31.3	8	250	215	180	17	13	
VF/VF 130/250	**P132 B5**	38	40.1#	10	300	265	230	17	13	

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

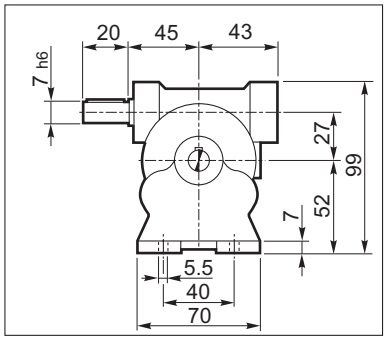
VF 27...HS

Albero uscita
Output shaft
Abtriebswelle
Arbre lent

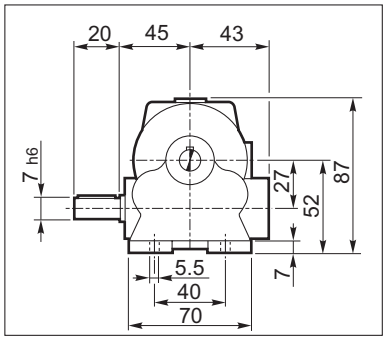
Albero entrata
Input shaft
Antriebswelle
Arbre rapide



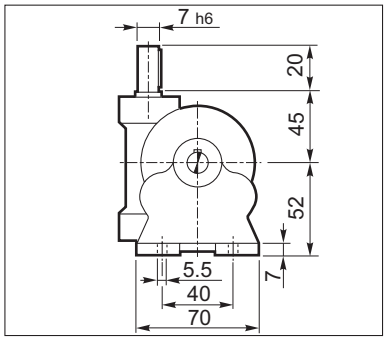
VF 27_A..HS



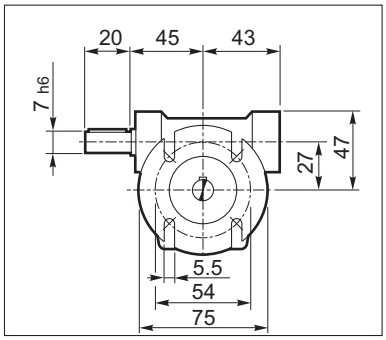
VF 27_N..HS

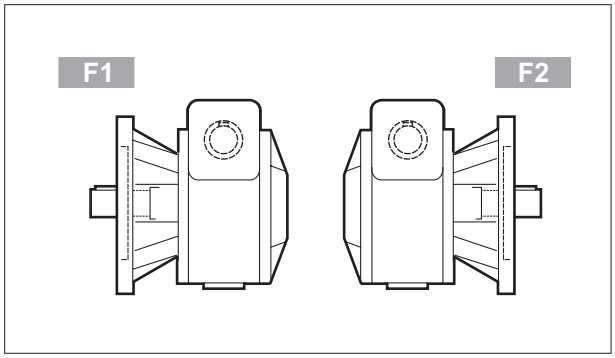


VF 27_V..HS



VF 27_F..HS





	Kg
VF 27_HS	0.73

Le dimensioni comuni alle altre configurazioni sono riportate a pag. 122.

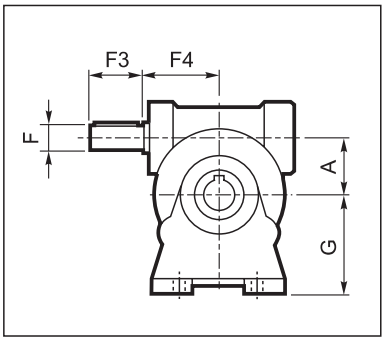
Dimensions common to the other configurations can be found at page 122.

Die mit den anderen Konfigurationen gemeinen Abmessungen sind auf Seiten 122.

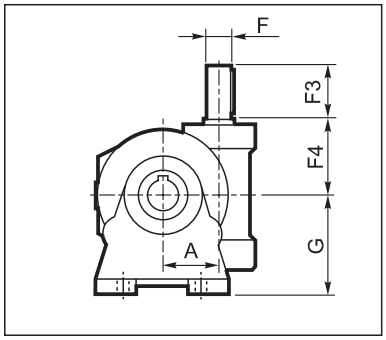
Les dimensions communes à toutes les autres configurations sont indiquées à la page 122.

VF...HS - W...HS

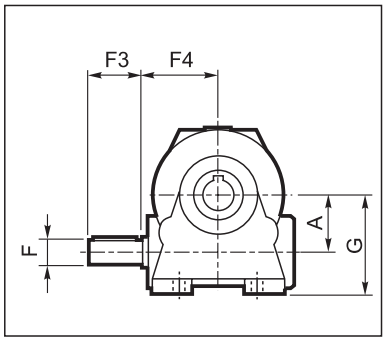
VF_A..HS



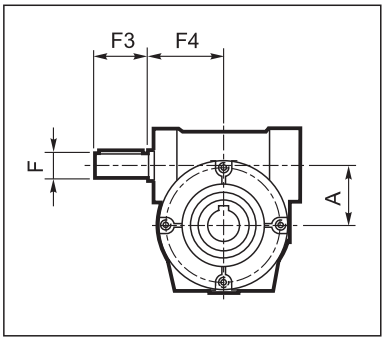
VF_V..HS



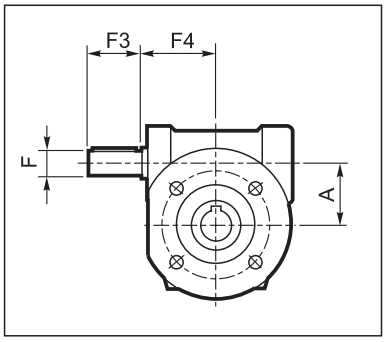
VF_N..HS



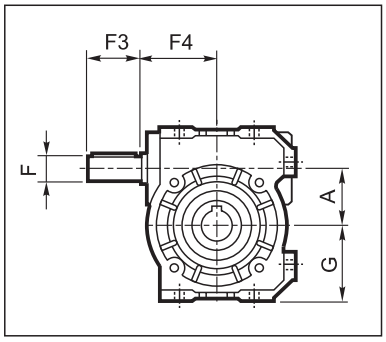
VF_P..HS



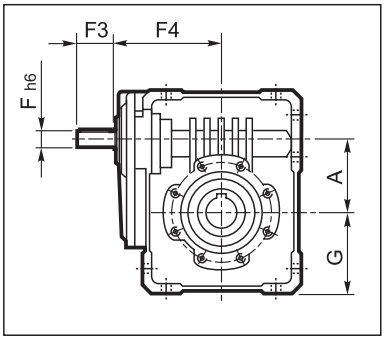
VF_FA/FC/FR/F..HS



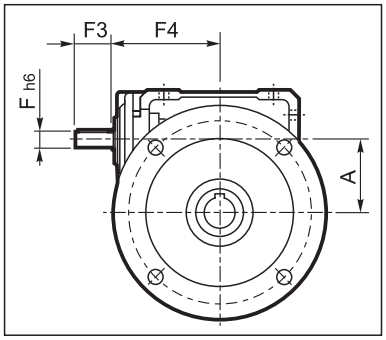
VF_U..HS



W_U..HS

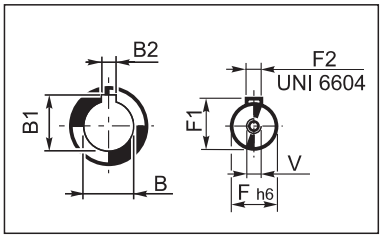


W_UF/UFC/UFCR..HS



Albero uscita
Output shaft
Abtriebswelle
Arbre lent

Albero entrata
Input shaft
Antriebswelle
Arbre rapide



	A	B	B1	B2	F	F1	F2	F3	F4	G	V	Kg
VF 30_HS	30	14 H7	16.3	5	9	10.2	3	20	50	55	—	1.1
VF 30 U HS										47		
VF 44_HS	44.6	18 H7	20.8	6	11	12.5	4	30	54	72	—	2.0
VF 44 U HS										55		
VF 49_HS	49.5	25 H7	28.3	8	16	18	5	40	65	82	M6x16	3.0
VF 49 U HS										64.5		
W 63_HS	62.17	25 H7	28.3	8	18	20.5	6	40	110.5	72.5	M6x16	6.4
W 75_HS	75	30(28) H7	33.3(31.3)	8	19	21.5	6	40	128	87	M6x16	10.0
W 86_HS	86.9	35 H7	38.3	10	25	28	8	50	144	100	M8x19	14.1
W 110_HS	110.1	42 H7	45.3	12	25	28	8	60	168	125	M8x19	27
VF 130_HS	130	45 H7	48.8	14	30	33	8	60	160	195	M8x20	49
VF 150_HS	150	50 H7	53.8	14	35	38	10	65	185	220	M8x20	60
VF 185_HS	185.4	60 H7	64.4	18	40	43	12	70	214.5	254	M8x20	94
VF 210_HS	210	90 H7	95.4	25	48	51.5	14	110	230	335	M16x40	175
VF 250_HS	250	110 G7	116.4	28	55	59	16	110	274	380	M16x40	275

Le dimensioni comuni alle altre configurazioni sono riportate da pag. 124 a pag. 179.

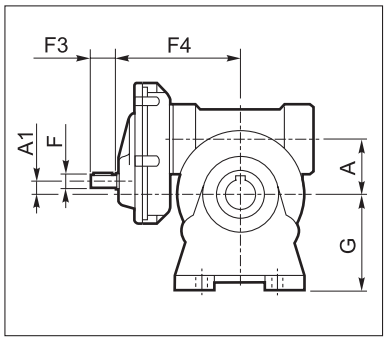
Dimensions common to the other configurations can be found from page 124 to 179.

Die mit den anderen Konfigurationen gemeinen Abmessungen sind auf Seiten 124 - 179 angegeben.

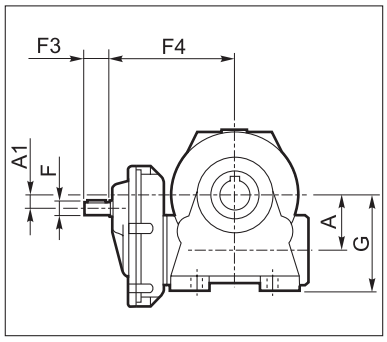
Les dimensions communes à toutes les autres configurations sont indiquées de la page 124 jusqu'à 179.

VFR...HS - WR...HS

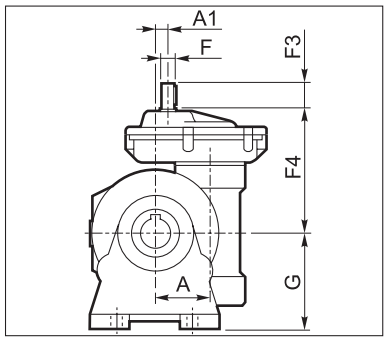
VFR_A..HS



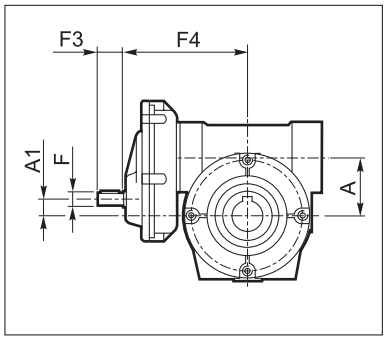
VFR_N..HS



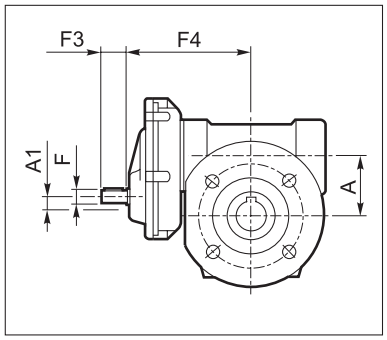
VFR_V..HS



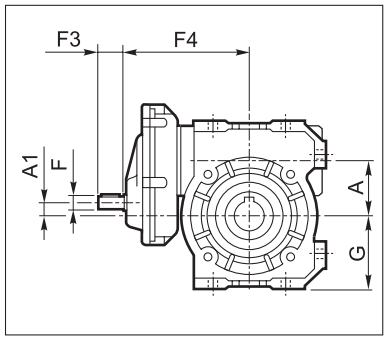
VFR_P..HS



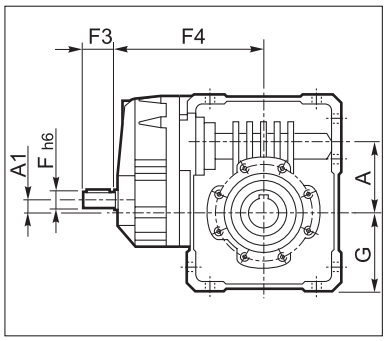
VFR_FA/FC/FR/F..HS



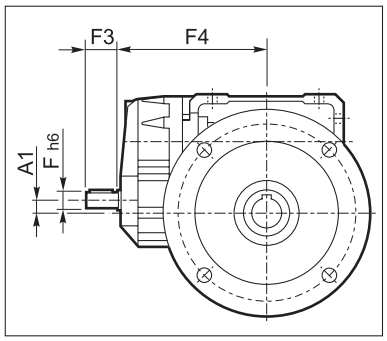
VFR_U..HS



WR_U..HS

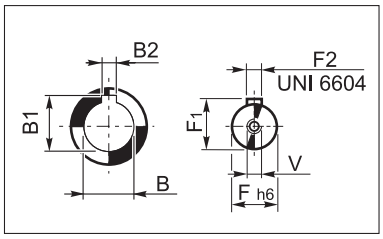


WR_UF/UFC/UFCR..HS



Albero uscita
Output shaft
Abtriebswelle
Arbre lent

Albero entrata
Input shaft
Antriebswelle
Arbre rapide



	A	A1	B	B1	B2	F	F1	F2	F3	F4	G	V	Kg
VFR 49_HS	49.5	10	25 H7	28.3	8	11	12.5	4	23	110	82	M4x10	5
VFR 49 U HS											64.5		
WR 63_HS	62.17	11.42	25 H7	28.3	8	14	16	5	30	138	72.5	M5x12.5	7.1
WR 75_HS	75	11	30(28) H7	33.3(31.3)	8	19	21.5	6	40	162	87	M6x16	11.1
WR 86_HS	86.9	22.9	35 H7	38.3	10	19	21.5	6	40	178	100	M6x16	14.7
WR 110_HS	110.1	21.1	42 H7	45.3	12	24	27	8	50	201	125	M8x19	34
VFR 130_HS	130	45	45 H7	48.8	14	24	27	8	50	228	195	M8x20	57
VFR 150_HS	150	53	50 H7	53.8	14	28	31	8	60	280	220	M8x20	71
VFR 185_HS	185.4	88.4	60 H7	64.4	18	28	31	8	60	310	254	M8x20	110
VFR 210_HS	210	92	90 H7	95.4	25	38	41	10	80	335	335	M10x25	185
VFR 250_HS	250	132	110 G7	116.4	28	38	41	10	80	383	380	M10x25	295

Le dimensioni comuni alle altre configurazioni sono riportate da pag. 134 a pag. 181.

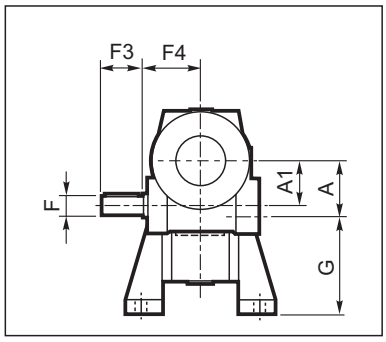
Dimensions common to the other configurations can be found from page 134 to 181.

Die mit den anderen Konfigurationen gemeinen Abmessungen sind auf Seiten 134 - 181 angegeben.

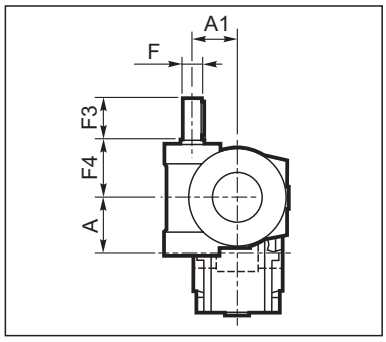
Les dimensions communes à toutes les autres configurations sont indiquées de la page 134 jusqu'à 181.

VF/VF...HS - VF/W...HS - W/VF...HS

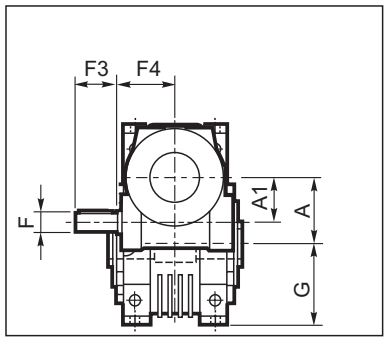
VF/VF_A..HS
W/VF_A..HS

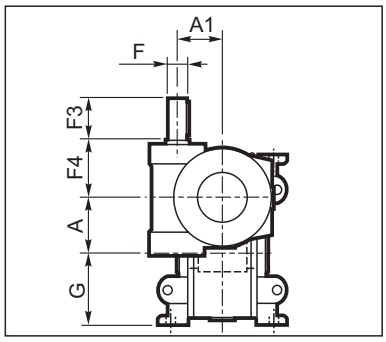


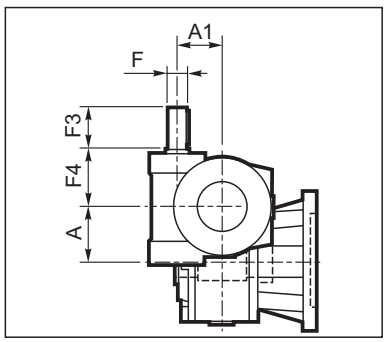
VF/VF_P..HS
W/VF_P..HS

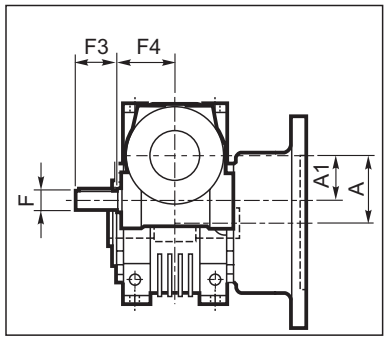


VF/VF_P..HS
W/VF_P..HS



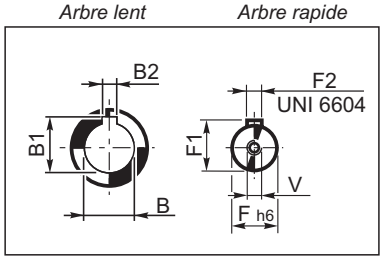






Albero uscita
Output shaft
Abtriebswelle
Arbre lent

Ibero entrata
Input shaft
Antriebswelle
Arbre rapide



	A	A1	B	B1	B2	F	F1	F2	F3	F4	G	V	Kg
VF/VF 30/44_HS	44.6	30	18 H7	20.8	6	9	10.2	3	20	50	72	—	3.5
VF/VF 30/44 U HS											55		
VF/VF 30/49_HS	49.5	30	25 H7	28.3	8	9	10.2	3	20	50	82	—	4.5
VF/VF 30/49 U HS											64.5		
VF/W 30/63_HS	62.17	30	25 H7	28.3	8	9	10.2	3	20	50	100	—	7.5
VF/W 44/75_HS	75	44.6	30 (28) H7	33.3 (31.3)	8	11	12.5	4	30	54	115	—	16.1
VF/W 44/86_HS	86.9	44.6	35 H7	38.3	10	11	12.5	4	30	54	142	—	42
VF/W 49/110_HS	110.0	49.5	42 H7	45.3	12	16	18	5	40	65	170	M6x16	46
W/VF 63/130_HS	130	62.17	45 H7	48.8	14	18	20.5	6	40	110.5	72.5	M6x16	74
W/VF 86/150_HS	150	86.9	50 H7	53.8	14	25	28	8	50	144	100	M8x19	108
W/VF 86/185_HS	185.4	86.9	60 H7	64.4	18	25	28	8	50	144	100	M8x19	109
VF/VF 130/210_HS	210	130	90 H7	95.4	25	30	33	8	60	160	335	M8	225
VF/VF 130/250_HS	250	130	110 G7	116.4	28	30	33	8	60	160	380	M8	325

Le dimensioni comuni alle altre configurazioni sono riportate da pag. 130 a pag. 182.

Dimensions common to the other configurations can be found from page 130 to 182.

Die mit den anderen Konfigurationen gemeinen Abmessungen sind auf Seiten 130 - 182 angegeben.

Les dimensions communes à toutes les autres configurations sont indiquées de la page 130 jusqu'à 182.

26 - OPZIONI

RB RBO

I riduttori a vite senza fine (escluso VF 27) possono essere forniti, a richiesta, con l'albero veloce sporgente sul lato opposto comando specificando nell'ordinativo l'opzione **RB**, oppure **RBO** (solo per gruppi in esecuzione combinata).

26 - OPTION

RB RBO

*Worm gears (with the exception of VF 27) can be optionally requested with extended wormshaft at NDE by specifying the option **RB** or **RBO** (for double worm combined units) at the time of order.*

32 - OPTIONEN

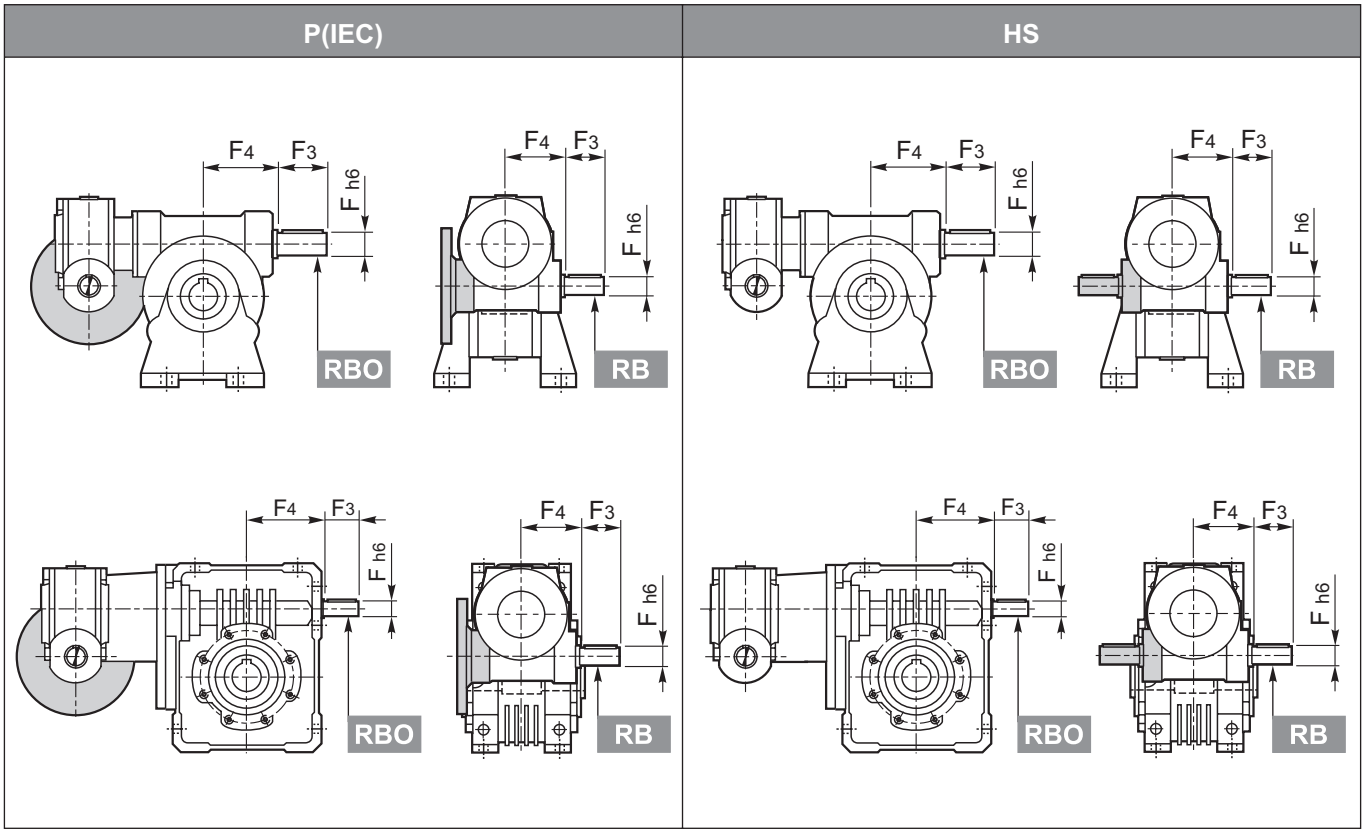
RB RBO

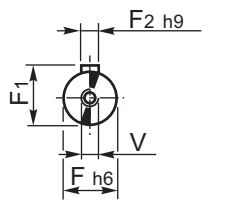
Alle Schneckengetriebe (auâer VF 27) können auf Anfrage bzw. unter Angabe des Optionswunsches **RB** oder **RBO** (nur für Doppelschneckengetriebe) mit einer frei hervorstehenden Schneckenwelle geliefert werden.

32 - OPTIONS

RB RBO

*Les réducteurs à vis sans fin (sauf VF 27) peuvent être fournis, sur demande, avec la vis sortante, en indiquant l'option **RB** ou **RBO** (réducteur combine seulement).*





Albero sporgente
Extended input shaft
Frei hervorstehende welle
Arbre sortant

		F	F1	F2	F3	F4	V
VF VFR VF/VF	**30**	9	10.2	3	20	50	-
	44	11	12.5	4	30	56	-
	49	16	18	5	40	65	M6
W WR VF/W	**63**	18	20.5	6	40	74	M6
	75	19	21.5	6	40	88.5	M6
	86	25	28	8	50	101.5	M8
	110	25	28	8	60	127.5	M8
VF VFR W/VF	**130**	30	33	8	60	160	M8
	150	35	38	10	65	185	M8
	185	40	43	12	70	214.5	M8
	210	48	51.5	14	82	185	M16x40
	250	55	59	16	82	228	M16x40

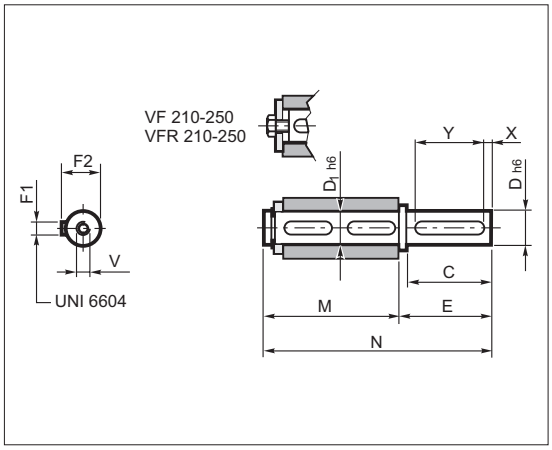
Per VF 210 e VF 250, nelle forme costruttive A e P, normalmente viene montata la ventola di raffreddamento; con l'opzione RB non è possibile applicarla.

A and P versions of VF 210 and VF 250 feature the fan cooling as a standard, however forced ventilation is not feasible should the RB option be specified.

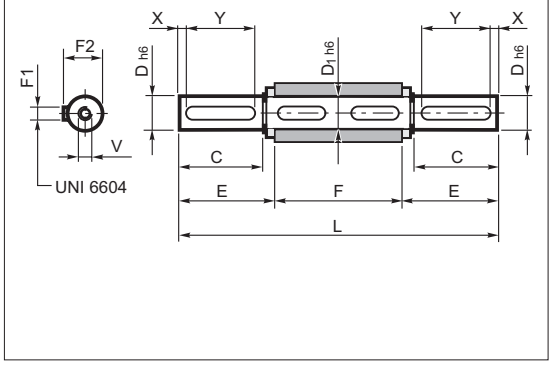
Für VF 210-250, in den Baumodellen A und P, wird in der Regel ein Kühlungsgebläse montiert; mit der Option RB kann dieses nicht montiert werden.

Sur les projets A et P on monte d'habitude les ventilateurs de refroidissement qui n'est pas prévue avec l'option RB.

27.1 Albero lento riportato — *27.1 Plug-in output shaft* — 27.1 Ausgangsteckwelle — *27.1 Arbre lent rapporté*



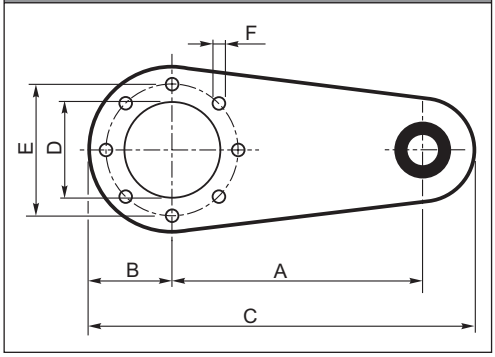
		C	D	D1	E	F1	F2	M	N	V	X	Y
VF VFR VF/VF	30	30	14	14	35	5	16	61	96	M5x13	5	20
	44	40	18	18	45	6	20.5	70	115	M6x16	5	30
	49	60	25	25	65	8	28	89	154	M8x19	5	50
W WR VF/W	63	60	25	25	65	8	28	127	192	M8x19	5	50
	75_D28	60	28	30	65	8	31	134	199	M8x20	5	50
	75_D30	60	30	30	65	8	33	134	199	M10x22	5	50
	86	60	35	35	65	10	38	149	214	M10x22	5	50
	110	75	42	42	80	12	45	164	244	M12x28	7.5	60
VF VFR W/VF	130	80	45	45	85	14	48.5	176	261	M12x32	5	70
	150	85	50	50	93	14	53.5	185	278	M16x40	7.5	70
	185	100	60	60	110	18	64	200	310	M16x40	10	80
	210	130	90	90	140	25	95	255	395	M20x50	5	120
	250	165	110	110	175	28	116	315	490	M24x64	15	140



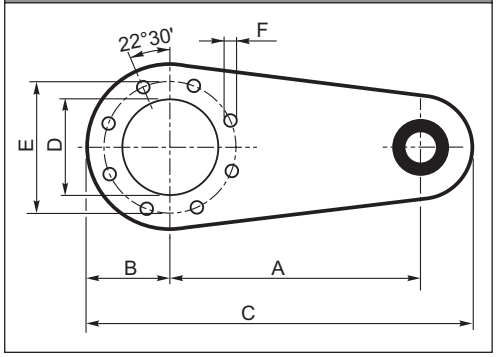
		C	D	D1	E	F	F1	F2	L	V	X	Y
VF VFR VF/VF	30	30	14	14	32.5	55	5	16	120	M5x13	5	20
	44	40	18	18	42.7	64	6	20.5	149.4	M6x16	5	30
	49	60	25	25	63.2	82	8	28	208.4	M8x19	5	50
W WR VF/W	63	60	25	25	63.2	120	8	28	246.4	M8x19	5	50
	75_D28	60	28	30	64	127	8	31	255	M8x20	5	50
	75_D30	60	30	30	64	127	8	33	255	M10x22	5	50
	86	60	35	35	64	140	10	38	268	M10x22	5	50
	110	75	42	42	79.3	155	12	45	313.5	M12x28	7.5	60
VF VFR W/VF	130	80	45	45	84.7	165	14	48.5	334.5	M12x32	5	70
	150	85	50	50	90	175	14	53.5	355	M16x40	7.5	70
	185	100	60	60	105	190	18	64	400	M16x40	10	80
	210	130	90	90	140	260	25	95	540	M20x50	5	120
	250	165	110	110	175	320	28	116	670	M24x64	15	140

27.2 Braccio di reazione — *27.2 Torque arm* — 27.2 Drehmomentstütze — *27.2 Bras de réaction*

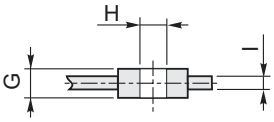
VF



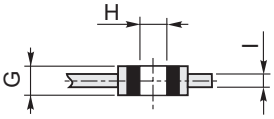
W



VF 30 - VF 44 - VF 49



Privo di boccola antivibrante
Without vibration-dampening bushing
Ohne Vibrationsschutzbuchse
Sans douille antivibratoire



		A	B	C	D	E	F	G	H	I
VF VFR VF/VF	30	100	40	157.5	50	65	7	14	8	4
	44	100	40	157.5	50	65	7	14	8	4
	49	100	55	172.5	68	94	7	14	8	4
W WR VF/W	63	150	55	233	75	90	9	20	10	6
	75	200	63	300	90	110	9	25	20	6
	86	200	80	318	110	130	11	25	20	6
	110	250	100	388	130	165	13	25	20	6
VF VFR W/VF	130	300	125	470	180	215	13	30	25	6
	150	300	125	470	180	215	15	30	25	6
	185	350	150	545	230	265	17	30	25	6
	210	350	175	625	250	300	19	60	50	8
	250	400	225	725	350	400	19	60	50	10

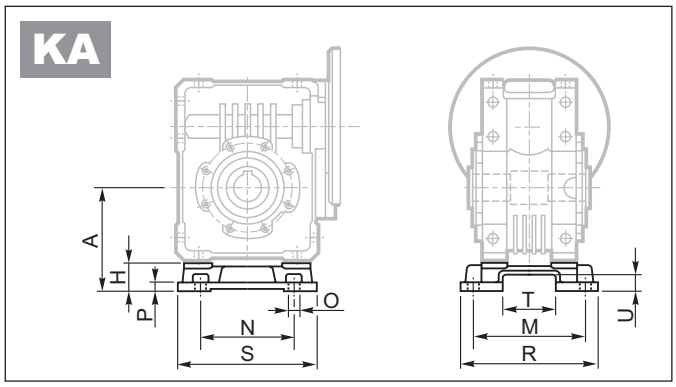
Bonfiglioli Riduttori

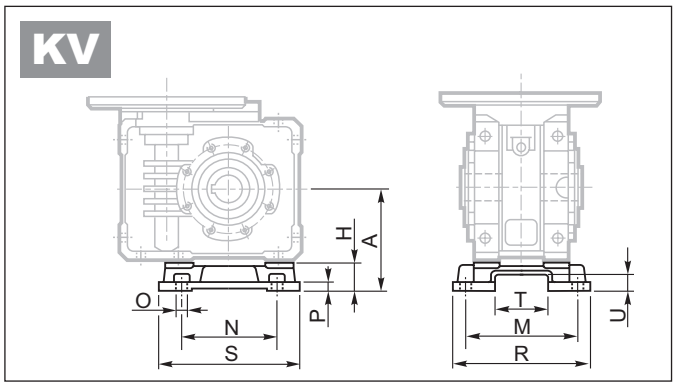
27.3 Kit piedi KA, KV

27.3 VF-interchangeable foot kits KA, KV

27.3 Satz - Stützfüße

27.3 Kit pieds KA, KV





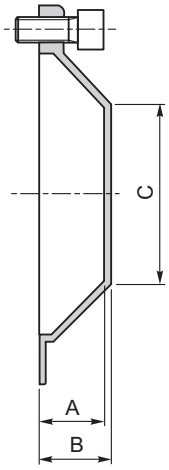
	A	H	M	N	O	P	R	S	T	U
W 63 - WR 63	100	27.5	111	95	11	8	135	145	56.5	15.5
W 75 - WR 75	115	28	115	120	11	9	139	174	56.5	15.5
W 86 - WR 86	142	42	146	140	11	11	170	200	69	20
W 110 - WR 110	170	45	181	200	13	14	210	250	69	20

27.4 Cappellotto di protezione

27.4 Safety cover

27.4 Schutzdeckel

27.4 Capuchon de protection



	A	B	C
W 63 - WR 63	26.5	29	Ø35
W 75 - WR 75	24.5	27	Ø54
W 86 - WR 86	26.5	29	Ø71
W 110 - WR110	27.5	30	Ø89