



Bonfiglioli

Riduttori

HDPE series

Riduttori ad assi paralleli per estrusori monovite

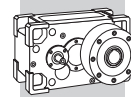
Parallel shaft gear units for single-screw extruder drive

Parallelwellengetrieben zur Steuerung von Monoblock-Strangpressen



Bonfiglioli

power, control and green solutions

**SOMMARIO****SUMMARY****ZUSAMMENFASSUNG**

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Revisioni

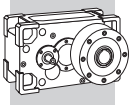
L'indice di revisione del catalogo è riportato a pag. 54. Al sito www.bonfiglioli.com sono disponibili i cataloghi con le revisioni aggiornate.

Revisions

Refer to page 54 for the catalogue revision index. Visit www.bonfiglioli.com to search for catalogues with up-to-date revisions.

Änderungen

Das Revisionsverzeichnis des Katalogs wird auf Seite 54 wiedergegeben. Auf unserer Website www.bonfiglioli.com werden die Kataloge in ihrer letzten, überarbeiteten Version angeboten.



1 - INFORMAZIONI GENERALI

1 - GENERAL INFORMATION

1 - ALLGEMEINE INFORMATIONEN

1.1 - SIMBOLOGIA E UNITÀ DI MISURA

1.1 - SYMBOLS AND UNITS OF MEASUREMENT

1.1 - SYMBOLE UND MASSEINHEITEN

		Descrizione	Description	Beschreibung
f_s	-	Fattore di servizio	<i>Service factor</i>	Betriebsfaktor
i	-	Rapporto di trasmissione	<i>Gear ratio</i>	Übersetzung
M_{1,2}	[Nm]	Coppia	<i>Torque</i>	Drehmoment
M_{c 1,2}	[Nm]	Coppia di calcolo	<i>Calculated torque</i>	Rechnerisches Drehmoment
M_{n 1,2}	[Nm]	Coppia nominale	<i>Rated torque</i>	Nennmoment
M_{r 1,2}	[Nm]	Coppia richiesta	<i>Torque demand</i>	Benötigtes Drehmoment
n_{1,2}	[min ⁻¹]	Velocità	<i>Speed</i>	Drehzahl
P_{1,2}	[kW]	Potenza	<i>Power</i>	Leistung
P_{n 1,2}	[kW]	Potenza nominale	<i>Rated power</i>	Nennleistung
P_{r 1,2}	[kW]	Potenza richiesta	<i>Power demand</i>	Benötigte Leistung
R_{c 1,2}	[kN]	Carico radiale di calcolo	<i>Calculated radial force</i>	Rechnerische Radialkraft
R_{n 1,2}	[kN]	Carico radiale nominale	<i>Permissible overhung load</i>	Nominale Radialkraft
η	-	Rendimento	<i>Efficiency</i>	Wirkungsgrad

₁ valore riferito all'albero veloce

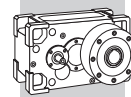
₁ *value applies to input shaft*

₁ Auf die Antriebswelle bezogener Wert

₂ valore riferito all'albero lento

₂ *value applies to output shaft*

₂ Auf die Abtriebswelle bezogener Wert



1.2 - CARATTERISTICHE COSTRUTTIVE

Il prodotto HDPE costituisce l'esecuzione per **comando di estrusori monovite** della collaudata serie di riduttori per servizio pesante HDP, con i quali condivide l'architettura generale e la stragrande maggioranza dei componenti.

I riduttori HDPE si caratterizzano per il montaggio nella parte anteriore della robusta cassa in ghisa sferoidale del supporto estrusore dotato di un cuscinetto assiale orientabile a rulli della serie 294...E, di fornitura esclusiva delle primarie marche.

1.2 - PRODUCT FEATURES

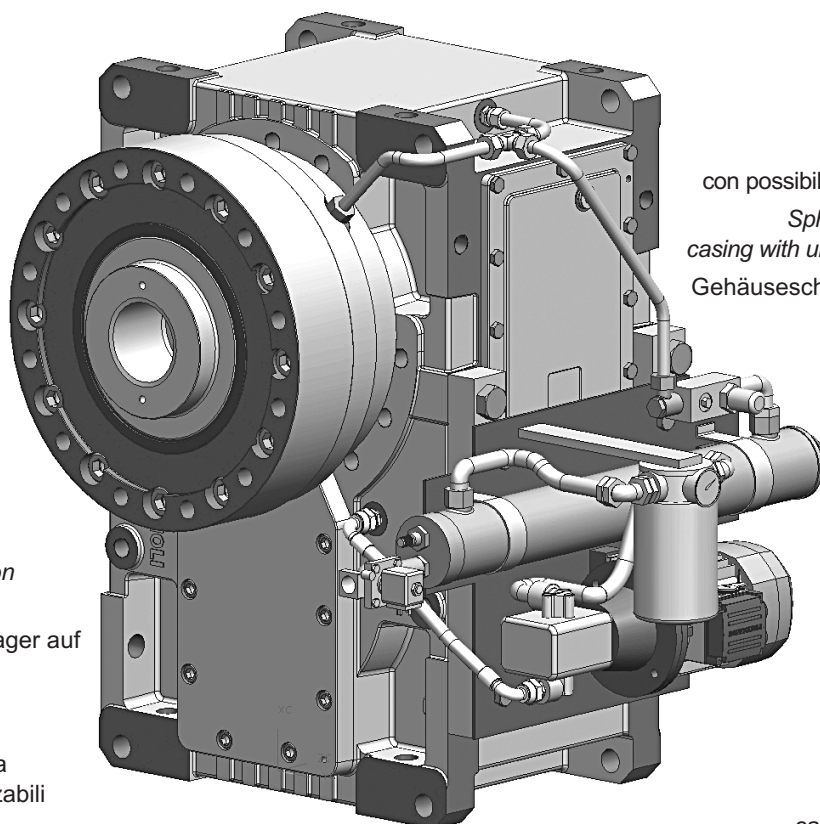
*The HDPE series is the configuration specifically developed for **single-screw extruder drive** generated from the renowned heavy duty series HDP, with which it shares most of the component parts and gearing.*

Mounted forward to the sturdy nodular cast iron case, and housed into a robust extruder support, HDPE units feature a heavy duty spherical roller thrust bearing of series 294...E, exclusively sourced from primary brands.

1.2 - BAULICHE EIGENSCHAFTEN

Beim Produkt HDPE handelt es sich um eine besondere Konfiguration der bewährten Getriebe der Baureihe HDP für harte Einsatzbedingungen **zur Steuerung von Monoblock-Strangpressen**, wobei der allgemeine Aufbau und der größte Teil der Komponenten beiden gemeinsam bleiben.

Die Getriebe der Baureihe HDPE sind an der robusten Sphärogussgehäuseschale im vorderen Teil des Strangpressenhalters mit einem ausrichtbaren Axialrollenlager der Baureihe 294...E führender Marken erkennbar.



Cuscinetto reggispinta ottimizzato in funzione dell'applicazione
Thrust bearing optimised for each application
Anwendungsoptimiertes Drucklager

Cuscinetti radiali a rulli cilindrici sull'asse lento
Radial roller bearings on the output shaft
Radiale Zylinderrollenlager auf der Abtriebswelle

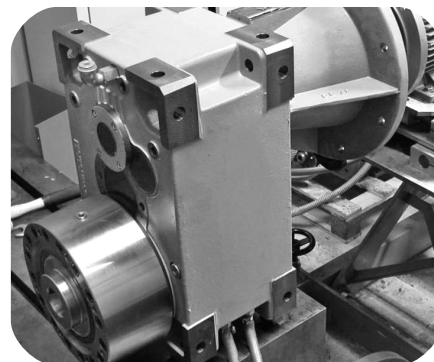
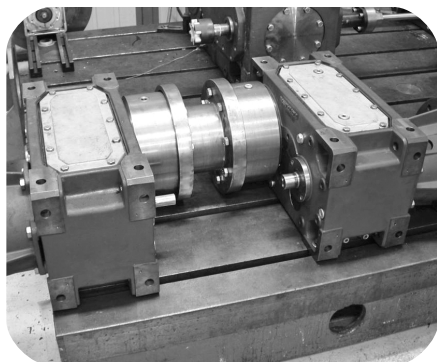
Dimensioni d'interfaccia vite/cilindro personalizzabili
Customisable extruder screw/cylinder interface dimensions
Individuell gestaltbare Schnittstellenabmessungen zwischen Schnecke/Zylinder

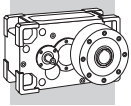
Anelli di tenuta con mescola in Viton®
Viton® compound seal rings
Dichtringe aus einer Viton®-Mischung

Cassa in ghisa sferoidale con possibilità di fissaggio universale
Spheroidal graphite cast iron casing with universal mounting options
Gehäuseschale aus Sphäroguss mit Universalbefestigung

Dispositivi di ausilio termico e lubrificazione forzata
External cooling and forced lubrication units
Thermische Hilfsvorrichtungen und Zwangsschmierung

Lubrificazione comune cassa e supporto estusore
Lubrication shared between gearbox casing and screw box
Gemeinsame Schmierung für Gehäuseschale und





1.3 - LUBRIFICAZIONE

Gli organi interni dei riduttori HDPE sono lubrificati con un sistema misto di immersione e sbattimento dell'olio. Per velocità di comando inferiori a 500 min^{-1} o superiori a 1750 min^{-1} , consultare preventivamente il Servizio Tecnico di Bonfiglioli.

La lubrificazione del supporto estrusore è comune con quella della cassa del riduttore. I riduttori sono forniti privi di lubrificante e sarà cura del Cliente immettere, prima della messa in opera, la quantità di olio appropriata.

Le quantità di lubrificante riportate in tabella sono indicative. 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, in funzione del rapporto o della particolare esecuzione del prodotto.

1.3 - LUBRICATION

The internal parts of HDPE gearboxes are lubricated with a mixed immersion and splash system. Should the drive speed be lower than 500 min^{-1} or greater than 1750 min^{-1} , please contact Bonfiglioli Technical Service for advise.

The screw box shares its lubrication with the gearbox casing. These gearboxes are supplied without lubricant. It is the customer's responsibility to fill them with the appropriate amount of oil before start-up.


The amounts of lubricant given in the chart are indicative. Use the plug hole centre line or the dipstick, if provided, for correct filling. The amount of lubricant given in the chart may vary, sometimes substantially, depending on the ratio or particular execution of the product.


1.3 - SCHMIERUNG

Die Innenteile der Getriebe HDPE werden mit einem gemischten System der Tauch- und Ölspritzschmierung geschmiert. Wenn die Eingangsdrehzahl niedriger als 500 min^{-1} oder höher als 1750 min^{-1} , kontaktieren Sie bitte den Technischen Service von Bonfiglioli.

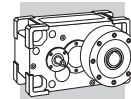
Die Schmierung des Strangpressenhalters erfolgt gemeinsam mit der Schmierung der Getriebegehäuseschale. Die Getriebe werden ohne Schmiermittel geliefert, und der Kunde muss vor Inbetriebnahme die korrekte Ölmenge einfüllen.

Die in der Tabelle angegebenen Schmiermittelmengen sind Richtwerte. Für die korrekte Füllung muss auf die Mittellinie des Öleinfüllstutzens oder des Ölstabs (sofern vorhanden) Bezug genommen werden. Je nach Übersetzungsverhältnis oder je nach Ausführung des Produkts können die tatsächlichen Füllmengen unter Umständen auch stark von den Tabellenwerten abweichen.

	 [l]		
	B3	B6	B7
HDPE 60 2	11	17.3	15.6
HDPE 60 3			
HDPE 70 2	12	18.5	16
HDPE 70 3			
HDPE 80 2	18.5	28	26.5
HDPE 80 3			
HDPE 90 2	26.1	40.2	36.1
HDPE 90 3			

	 [l]		
	B3	B6	B7
HDPE 100 2	32	71	54
HDPE 100 3	37	80	61
HDPE 110 2	32	71	54
HDPE 110 3	37	80	61
HDPE 120 2	43	99	72
HDPE 120 3	53	112	82
HDPE 130 2	72	184	134
HDPE 130 3	101	211	155
HDPE 140 2	91	193	141
HDPE 140 3	104	221	162

Lubrificante / Lubricant / Schmiermittel		Viscosità cinematica a 40°C / Kinematic viscosity at 40°C Kinematische Viskosität 40°C [cst] ISO VG 320
Olio minerale EP Mineral Oil (EP additives) Mineralöl EP	T _{amb}	10°C ... 40°C
Olio sintetico Synthetic oil Synthetiköl	T _{amb}	10°C ... 50°C



2 - SELEZIONE DEL RIDUTTORE

La selezione ottimale della trasmissione può essere condotta solo previa la piena conoscenza delle condizioni applicative, sia di natura funzionale, che ambientale. A garanzia di un corretto dimensionamento del prodotto, è vivamente consigliato ricorrere all'esperienza e alla specifica conoscenza del Servizio Tecnico di Bonfiglioli.

2 - SELECTING THE GEAR UNIT

The selection of the drive unit can only be optimized upon knowing both the engineering and the environmental conditions the gearbox will operate into. For a safe selection it is strongly recommended to rely on the long time experience of the Bonfiglioli Technical Service Dept.

2 - WAHL DES GETRIEBES

Eine optimale Wahl der Uebertragung kann durch eine vollständige Bekanntheit von allen Anwendungsbedingungen sowohl die zweckmäßige als auch die Umweltbedingungen ausgeführt werden. Um eine richtige Bemessung zu gewähren, empfehlen wir Sie, an die Dienstleistungservice von der Bonfiglioli zu wenden.

2.1 - DIMENSIONAMENTO

1. Determinare il rapporto di trasmissione:

$$i = \frac{n_1}{n_2}$$

2. Calcolare la potenza richiesta P_{r1} all'albero veloce del riduttore:

$$P_{r1} = \frac{M_{r2} \times n_2}{9550 \times \eta}$$

3. Considerare un fattore di servizio minimo $f_s \geq 1.5$ e un fattore correttivo dipendente dal tipo di organo motore $f_m = 1$ (ref. motore elettrico).

4. Dalle tabelle dati tecnici selezionare il riduttore con rapporto di trasmissione più prossimo a quello calcolato e caratterizzato da una potenza nominale P_{n1} , tale che:

$$P_{n1} \geq P_{r1} \times f_s \times f_m$$

2.1 - ENGINEERING SELECTION

1. First determine the gear ratio:

2. Calculate the power P_{r1} required at the input shaft:



3. Considering a minimum service factor of $f_s \geq 1.5$ and a correction factor for the type of drive organ $f_m = 1$ (referred to an electric motor).

4. Use the rating charts to select the gear unit with the gear ratio nearest to that calculated, and with a rated power P_{n1} , so that:

2.1 - BEMESSUNG

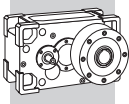
1. Die Übersetzung ermitteln:

2. Benötigte Leistung P_{r1} an der Antriebswelle des Getriebes berechnen:

	η
2x 	0.96
3x 	0.94

3. Einen min. Servicefaktor $f_s \geq 1.5$ und einen vom Antriebstyp abhängigen Korrekturfaktor $f_m = 1$ (Ref. Elektromotor) berücksichtigen.

4. Aus den technischen Datentabellen ein Getriebe aussuchen, dessen Übersetzungsverhältnis dem berechneten am nächsten kommt, und dessen Nennleistung P_{n1} , die folgende Bedingung ermöglicht:



2.2 - VERIFICHE

2.2.1 - ABBINAMENTO MOTORE

Per il riduttore selezionato verificare la disponibilità della relativa flangia di accoppiamento nella sezione 3.5.

La normalizzazione tipica dei motori elettrici può portare a selezionare un motore caratterizzato da potenza di targa superiore, anche considerevolmente, alla potenza nominale P_{n1} del riduttore che si è dimensionato. Verificare che in nessuna condizione del ciclo di lavoro la maggiore potenza erogabile dal motore elettrico sia effettivamente sviluppata. In presenza di dati di calcolo incerti, o di dubbi sull'effettivo diagramma di carico dell'applicazione è consigliabile installare un dispositivo limitatore di coppia.

2.2.2 - FORZA RISULTANTE SULL'ALBERO

Organi di trasmissione calettati sugli alberi di ingresso 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 sistema albero-cuscinetti del riduttore, in particolare il valore assoluto del carico applicato (R_{c1} per albero di ingresso) deve essere inferiore al valore nominale (R_{x1} per albero di ingresso) riportato nelle tabelle dati tecnici. Il carico generato da una trasmissione esterna può essere calcolato, con buona approssimazione, tramite la formula seguente:

2.2 - VERIFICATIONS

2.2.1 - MOTOR MOUNTING

Verify that the appropriate motor adapter is available for the selected gear unit. See section 3.5.

Because of standardisation, the rated power of the electric motor selected might be greater than power P_{n1} actually requested by the application. Make sure that the electric motor will never develop the extra power at any stage of the operating cycle. If you have any doubts about the validity of the application data, or uncertainty concerning the actual load pattern, install a torque limiting device or proportionally revise the applicable service factor.

2.2.2 - CALCULATING THE RESULTING OVERHUNG LOAD

External transmissions keyed onto input 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 input shaft), must be equal or lower than admissible overhung load capacity for shaft under study (R_{x1} for input shaft). OHL capability listed in the rating chart section. The load generated by an external transmission can be calculated, to a good approximation, by the following equation:

2.2 - KONTROLLEN

2.2.1 - MOTORZUSAMMENSTELLUNG

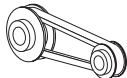

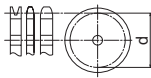
Für das gewählte Getriebe im Abschnitt 3.5 die Verfügbarkeit des entsprechenden Kupplungsflansches überprüfen.

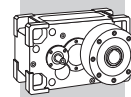
Aufgrund der Normierung von Elektromotoren kann es dazu kommen, dass ein Motor gewählt wird, dessen Nennleistung P_{n1} größer als die erforderliche Leistung P_{r1} für die Anwendung ist. Es muss sichergestellt werden, dass diese überschüssige Leistung zu keiner Zeit an das Getriebe abgegeben wird. Sollten Zweifel oder Unsicherheiten bezüglich der Belastungs- oder Anwendungsdaten bestehen, empfiehlt sich die Installation eines Drehmomentbegrenzers.

2.2.2 - AUF DIE WELLE WIRKENDE KRAFT

Externe Vorgelege auf den Antriebswellen des Getriebes entwickeln Kräfte, die radial auf die Welle einwirken. Die resultierende Wellenbelastung muss mit der Widerstandskraft des Systems Welle/Lager des Getriebes kompatibel sein; vor allem muss der Absolutwert der ausgeübten Kraft (R_{c1} für Antriebswelle) unter dem in der Tabelle mit den technischen Daten angegebenen Nennwert (R_{x1} für Antriebswelle) liegen.

Die von einer äußeren Übertragung ausgeübte Kraft kann mit gutem Näherungswert mit folgender Formel berechnet werden:

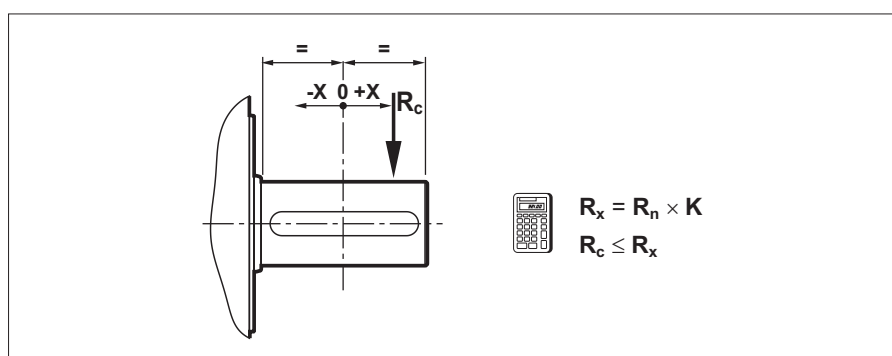
$R_c = \frac{2000 \times M \times K_r}{d}$			
$K_r = 1.5 - 2.0$		M [Nm]	
		d [mm]	



2.2.3 - VERIFICA SOPPORTAZIONE RADIALE

2.2.3 - OVERHUNG LOADING VERIFICATION

2.2.3 - PRÜFUNG DER RADIALKRÄFTE



I valori $Rn_{1\ max}$ riportati in tabella sono i carichi radiali massimi ammissibili; essi possono subire delle limitazioni in funzione delle condizioni applicative.

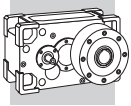
Per un calcolo puntuale contattare il Servizio Tecnico Bonfiglioli.

The $Rn_{1\ max}$ values listed in the table are the maximum permissible overhung loads; these loads may have to be reduced in certain applications.

For an exact value, please contact Bonfiglioli's Technical Service.

Die in der Tabelle aufgeführten Höchstwerte $Rn_{1\ max}$ sind die maximal zulässigen Radialkräfte; je nach Anwendungsbedingungen können sie Begrenzungen unterworfen sein. Für eine spezifische Berechnung wenden Sie sich bitte an den technischen Kundendienst von Bonfiglioli.

	i =	$Rn_{1\ max}$ [kN]	K_1												
			x [mm] =												
			-100	-75	-50	-25	0	25	50	75	100	150	200	250	300
HDPE 60 2	7.1 ... 15.2	4.5	-	-	-	1.29	1.00	0.82	0.69	0.60	0.53	-	-	-	-
	17.3 ... 19.4	3.0	-	-	-	1.28	1.00	0.82	0.70	0.60	0.53	-	-	-	-
HDPE 60 3	22.7 ... 49.1	3.1	-	-	-	1.29	1.00	0.82	0.69	0.60	0.53	-	-	-	-
	56.6 ... 98.4	2.1	-	-	-	1.33	1.00	0.80	0.67	0.57	0.50	-	-	-	-
HDPE 70 2	8.0 ... 17.7	4.5	-	-	-	1.29	1.00	0.82	0.69	0.60	0.53	-	-	-	-
	19.4 ... 22.6	3.0	-	-	-	1.28	1.00	0.82	0.70	0.60	0.53	-	-	-	-
HDPE 70 3	25.5 ... 57.0	3.1	-	-	-	1.29	1.00	0.82	0.69	0.60	0.53	-	-	-	-
	63.7 ... 114.4	2.1	-	-	-	1.33	1.00	0.80	0.67	0.57	0.50	-	-	-	-
HDPE 80 2	8.1 ... 14.6	5.0	-	-	1.53	1.21	1.00	0.85	0.74	0.66	0.59	0.49	-	-	-
	15.5 ... 22.6	5.5	-	-	-	1.24	1.00	0.84	0.72	0.63	0.56	0.41	-	-	-
HDPE 80 3	25.8 ... 75.2	5.8	-	-	-	1.26	1.00	0.83	0.71	0.62	0.53	0.39	-	-	-
	76.4 ... 111.4	3.0	-	-	-	1.29	1.00	0.82	0.69	0.54	0.44	0.32	-	-	-
HDPE 90 2	7.9 ... 13.6	6.3	-	-	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	-	-	-
	15.8 ... 22.4	6.3	-	-	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	-	-	-
HDPE 90 3	25.4 ... 73.3	6.1	-	-	1.45	1.18	1.00	0.87	0.76	0.68	0.62	0.52	-	-	-
	77.8 ... 110.1	3.7	-	-	-	1.22	1.00	0.85	0.73	0.61	0.50	0.37	-	-	-
HDPE 100 2	7.4 ... 21.8	11.1	-	-	1.35	1.15	1.00	0.89	0.80	0.72	0.66	0.56	0.49	-	-
HDPE 100 3	22.8 ... 50	6.3	-	-	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	-	-	-
	55.5 ... 107.8	6.9	-	-	1.54	1.21	1.00	0.85	0.74	0.65	0.59	0.49	-	-	-
HDPE 110 2	8.1 ... 25.0	11.1	-	-	1.35	1.15	1.00	0.89	0.80	0.72	0.66	0.56	0.49	-	-
HDPE 110 3	24.9 ... 54.5	6.3	-	-	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	-	-	-
	60.7 ... 123.5	6.9	-	-	1.54	1.21	1.00	0.85	0.74	0.65	0.59	0.49	-	-	-
HDPE 120 2	7.9 ... 25.4	17.8	-	-	1.37	1.16	1.00	0.88	0.79	0.71	0.65	0.55	0.48	-	-
HDPE 120 3	25.8 ... 56.1	6.3	-	-	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	-	-	-
	64.3 ... 125.2	6.9	-	-	1.54	1.21	1.00	0.85	0.74	0.65	0.59	0.49	-	-	-
HDPE 130 2	7.3 ... 12.3	28.0	-	1.47	1.27	1.12	1.00	0.90	0.82	0.76	0.69	0.54	0.45	0.38	-
	14.1 ... 21.7	22.1	-	-	1.30	1.13	1.00	0.90	0.81	0.74	0.69	0.55	0.45	-	-
HDPE 130 3	21.8 ... 48.1	11.9	-	-	1.28	1.12	1.00	0.90	0.82	0.75	0.69	0.60	0.53	-	-
	56.5 ... 108.3	8.1	-	-	1.31	1.13	1.00	0.89	0.81	0.74	0.68	0.58	-	-	-
HDPE 140 2	8.4 ... 14.4	28.0	-	1.47	1.27	1.12	1.00	0.90	0.82	0.76	0.69	0.54	0.45	0.38	-
	16.3 ... 24.9	22.1	-	-	1.30	1.13	1.00	0.90	0.81	0.74	0.69	0.55	0.45	-	-
HDPE 140 3	25.1 ... 56.2	11.9	-	-	1.28	1.12	1.00	0.90	0.82	0.75	0.69	0.60	0.53	-	-
	65.1 ... 124.7	8.1	-	-	1.31	1.13	1.00	0.89	0.81	0.74	0.68	0.58	-	-	-



2.2.4 - CARICHI AGENTI SUGLI ALBERI

Carichi radiali e assiali albero veloce

Per verificare la sopportazione radiale riferirsi allo schema illustrato al paragrafo 2.2.3 e confrontare la forza radiale **Rc** gravante sull'albero con il carico ammissibile **Rx** corrispondente alla distanza di applicazione della forza stessa dalla mezzeria dell'albero.

Il carico ammissibile **Rx₁** per l'albero veloce si ricava moltiplicando il valore nominale **Rn₁**, reperibile nelle tabelle dati tecnici, per il coefficiente di spostamento **K₁**. I carichi radiali nominali **Rn** sono relativi alle condizioni di calcolo più sfavorevoli in quanto a verso di rotazione e angolo di applicazione della forza, e rappresentano pertanto un valore conservativo. Per un calcolo puntuale consultare il Servizio Tecnico di Bonfiglioli Riduttori. Congiuntamente al carico radiale è applicabile un carico assiale **An₁ ≤ 0.2 x Rn₁**.

2.2.5 - POTENZA TERMICA

La potenza termica **P_T** è il valore massimo di potenza che può essere trasmessa meccanicamente dal riduttore, in funzionamento continuo, senza che si produca al suo interno un aumento di temperatura tale da provocare il danneggiamento degli organi principali.

Nelle seguenti condizioni operative:

- posizione di montaggio B3
- funzionamento continuo
- installazione in ampi spazi (velocità aria > 1.4 m/s)
- altitudine max 1000 m

i valori di potenza termica complessiva e i valori di potenza termica comprensiva del contributo fornito dagli eventuali dispositivi di ausilio termico, sono riportati nel capitolo 4.1.

Per condizioni diverse contattare il Servizio Tecnico Bonfiglioli.

Il valore così determinato deve essere maggiore del valore di potenza **Pr₁** richiesto all'albero veloce del riduttore, la seguente espressione deve essere pertanto verificata:

2.2.4 - SHAFT LOADING

Overhung and thrust loads on input shaft

*When checking the overhung load capacity refer to scheme shown at paragraph 2.2.3. Calculate the admissible overhung load **Rx** that is relevant to the distance the force applies from shaft midpoint and compare this with the force **Rc** that acts onto the shaft.*

*Multiply the nominal radial load **Rn₁**, as listed in the technical data section, for the load location factor **K₁** to get the permissible overhung load **Rx₁** for the output shaft.*

*Rated overhung loads **Rn** are calculated for the most unfavourable condition as far as direction of rotation and the angle the force applies onto the shaft. Catalogue values are therefore conservative, for an in-depth calculation contact the Technical Service of Bonfiglioli Riduttori.*

*When a radial force applies a thrust load **An₁ ≤ 0.2 x Rn₁** is also permitted.*

2.2.5 - THERMAL CAPACITY

*Thermal power **P_T** is the maximum power that the gearbox can transmit mechanically, under continuous operation, without the internal temperature rising to a value that could damage the gearbox components.*

Under the following operating conditions:

- mounting position B3
- continuous functioning
- installation in large areas (air speed > 1.4 m/s)
- max. installation altitude 1000 m

total thermal capacity values and thermal capacity values inclusive of contributions from auxiliary cooling units are listed in section 4.1.

For other conditions contact Bonfiglioli's Technical Service.

*The figure determined must be greater than the **Pr₁** power value for the gearbox input shaft. It is therefore important to verify the following formula:*

2.2.4 - WELLENBELASTUNG

Radial- und Axialkräfte auf der Antriebswelle

Um die zulässige radiale Belastung zu überprüfen, beziehen Sie sich auf das in Abschnitt 2.2.3 dargestellte Schema. Berechnen Sie die zulässige Radiallast **Rx** in Abhängigkeit vom Abstand zum Mittelpunkt der Welle und vergleichen Sie diese mit der Radialkraft **Rc**. Die zulässige Last **Rx₁** für die Antriebswelle wird errechnet, indem der Nennwert **Rn₁**, der den Tabellen mit den technischen Daten entnommen werden kann, mit dem Verschiebungskoeffizienten **K₁** multipliziert wird. Die Nenn-Radialkräfte **Rn** beziehen sich auf die ungünstigsten Berechnungsbedingungen hinsichtlich Drehrichtung und Anwendungswinkel der Kraft, und stellen daher einen konservativen Wert dar. Für eine spezifische Berechnung wenden Sie sich bitte an den technischen Kundendienst von Bonfiglioli Riduttori. Zusammen mit der Radialkraft ist eine Axialkraft von **An₁ ≤ 0.2 x Rn₁** anwendbar.

2.2.5 - WARMELEISTUNG

Die Wärmeleistung **P_T** ist der maximale Leistungswert, der bei Dauerbetrieb mechanisch vom Getriebe übertragen werden kann, ohne dass im Innenbereich des Getriebes ein Temperaturanstieg zu verzeichnen wäre, der die Schädigung der wesentlichen Teile verursachen würde.

Unter folgenden Betriebsbedingungen:

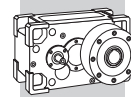
- Einbaulage B3- Dauerbetrieb
- Installation in großen Räumen (Luftgeschwindigkeit > 1.4 m/s)
- max. 1000 m ü NN

Die Werte der Gesamtwärmeleistung und die Werte der Wärmeleistung einschließlich des Beitrags durch eventuelle thermische Hilfsvorrichtungen sind in Kapitel 4.1 aufgeführt.

Für andere Bedingungen Kontakt technischen Kundendienst von Bonfiglioli Riduttori.

Der Wert bestimmt so muss über dem Leistungswert **Pr₁** liegen, der an der Antriebswelle des Getriebes gefordert ist; folgende Bedingung muss deshalb überprüft werden:

$$P_{T...} \geq P_{r1}$$



2.3 - CASO APPLICATIVO

2.3 - SAMPLE APPLICATION

2.3 - ANWENDUNGSFALL

Dati dell'applicazione / Application data / Applikationsdaten	
$n_1 = 1400 \text{ min}^{-1}$	$f_s = 1.5$
$n_2 = 116 \text{ min}^{-1}$	$Mr_2 = 3500 \text{ Nm}$
Posizione di montaggio: Mounting position: B3 Einbaulage:	

Selezione del prodotto:

Product selection:

Produktwahl:

a) $i = \frac{n_1}{n_2} = \frac{1400}{116} = 12$

b) $P_{r1} = \frac{Mr_2 \times n_2}{9550 \times \eta} = \frac{3500 \times 116}{9550 \times 0.96} \approx 44.3 \text{ kW}$

c) $P_{n1} \geq P_{r1} \times f_s = 44.3 \times 1.5 \geq 66.4 \text{ kW}$



HDPE 70 2 11.7 B3

[$P_{n1} = 79 \text{ kW @ } n_1 = 1400$]

Verifica potenza termica:

Thermal capacity check:

Prüfung der Wärmeleistung:

Caso 1

Temperatura ambiente = 20°C

Case 1

Ambient temperature = 20°C

Fall 1

Umgebungstemperatur = 20°C

$P_T = 40 \text{ kW} < P_{r1}$



— Serpentina di raffreddamento

— Cooling coil

— Kühlschlange

$P_{TSR} = 72 \text{ kW} > P_{r1}$

✓ OK

Caso 2

Temperatura ambiente = 40°C

— Serpentina di raffreddamento

Case 2

Ambient temperature = 40°C

— Cooling coil

Fall 2

Umgebungstemperatur = 40°C

— Kühlschlange

$P_{TSR} = 57 \text{ kW} > P_{r1}$

✓ OK

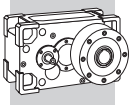
— Centralina di raffreddamento

— Cooling unit

— Kühlaggregat

$P_{TMCRW3} = 75 \text{ kW} > P_{r1}$

✓ OK



3 - CONFIGURAZIONI PRODOTTO

3 - PRODUCT CONFIGURATIONS

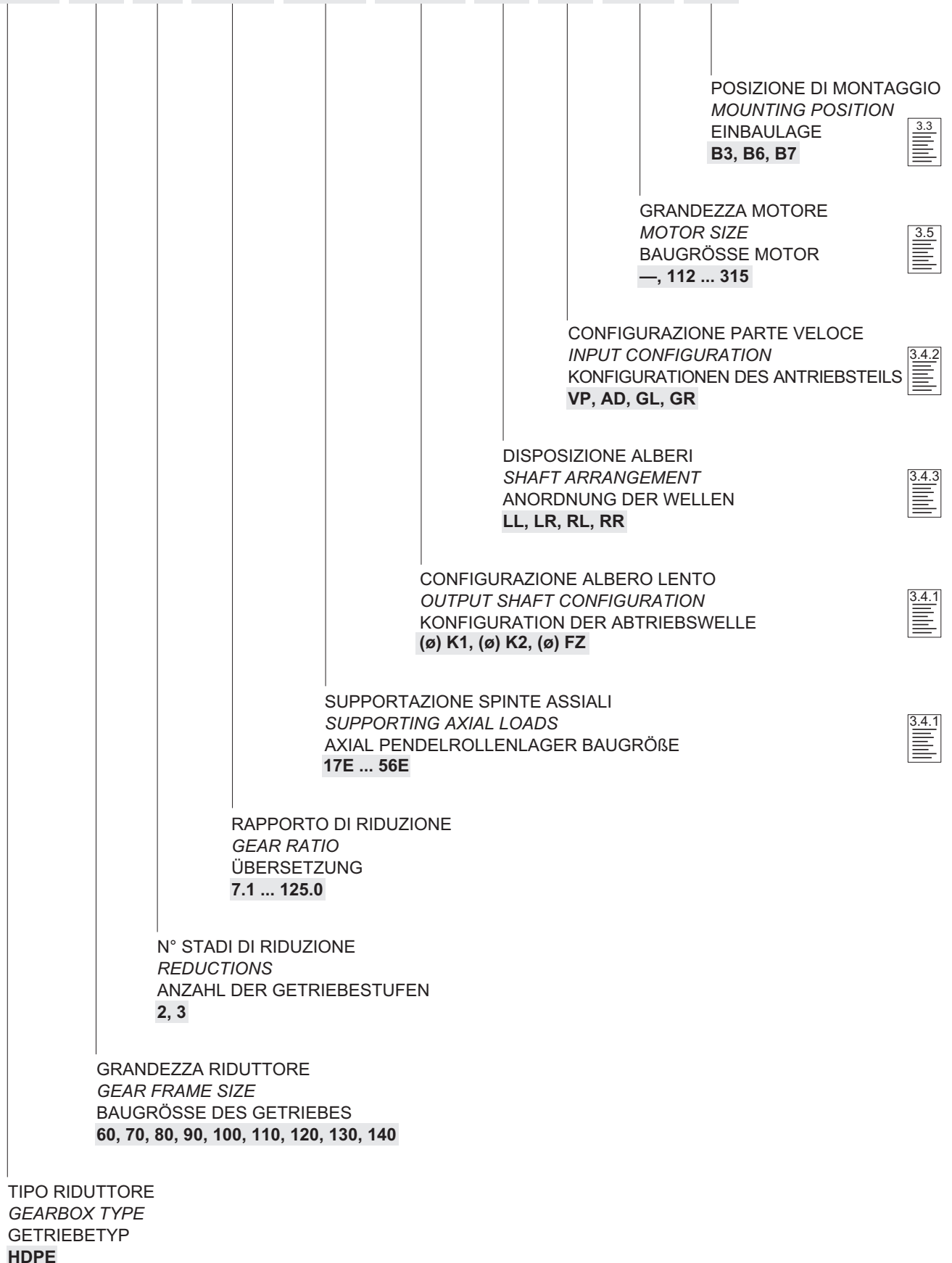
3 - PRODUKTKONFIGURATIONEN

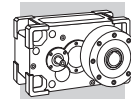
3.1 - VARIANTI BASE

3.1 - BASE VARIANTS

3.1 - BASISVARIANTEN

HDPE 70 3 25.5 17E 50K1 LR GR 132 B6

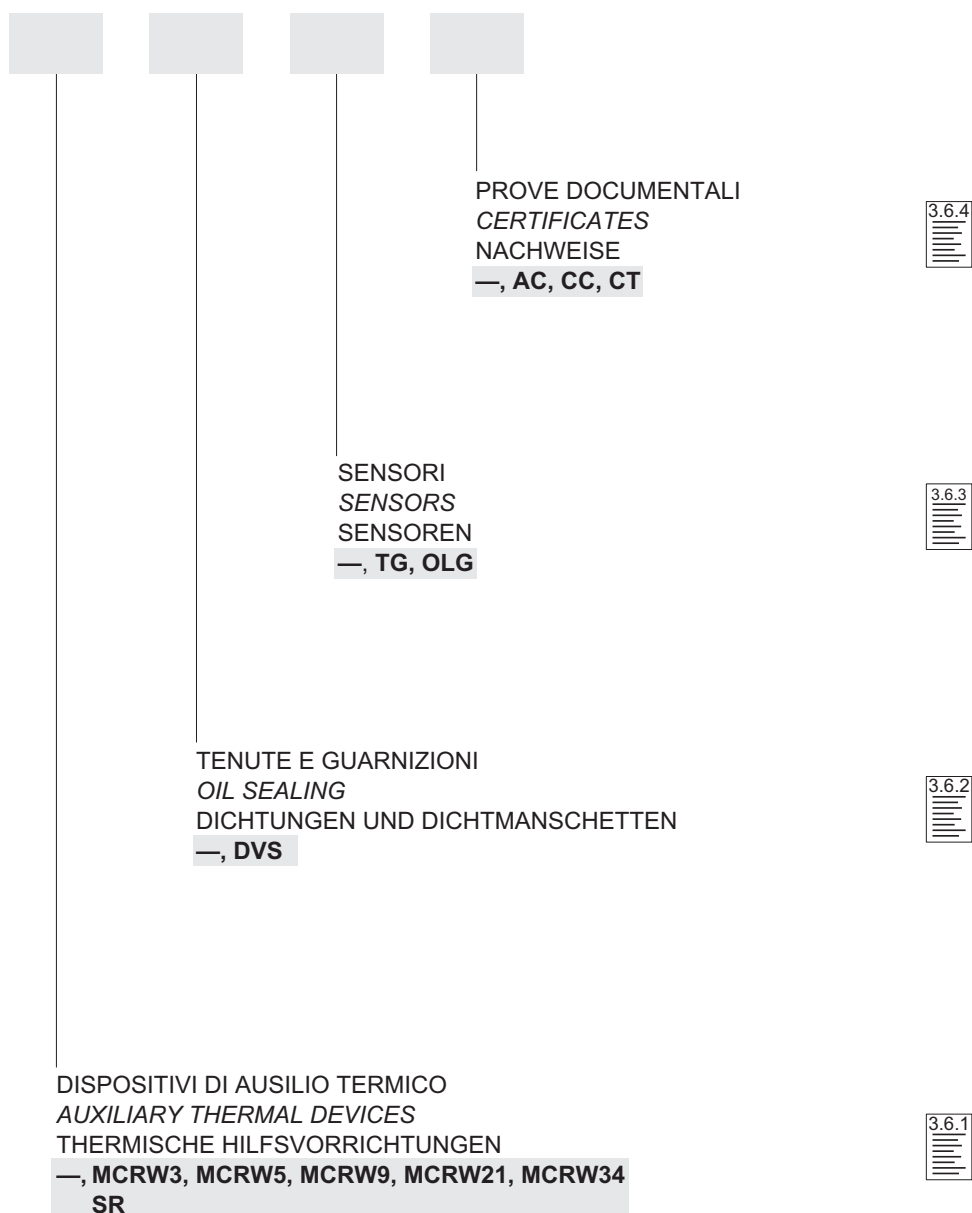




3.2 - VARIANTI OPZIONALI

3.2 - OPTIONAL VARIANTS

3.2 - OPTIONALE VARIANTEN



Per una corretta designazione, a causa dell'elevato grado di personalizzazione del prodotto, è necessario rivolgersi al Servizio Tecnico Bonfiglioli.

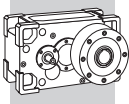
Because of the high level of customisation available with this product, please contact Bonfiglioli's Technical Service to obtain the exact designation.

Aufgrund der breiten Möglichkeiten der kundenspezifischen Anpassung des Produkts muss die definitive Freigabe immer durch den technischen Kundendienst von Bonfiglioli erfolgen.

NOTA: La selezione combinata di alcune varianti può comportare conflitti di natura tecnica o dimensionale. Consultare la fabbrica per una verifica puntuale.

REMARK: The multiple selection of some of the variants may be subject to technical or dimensional constraints. Consult with the factory to have your selection approved.

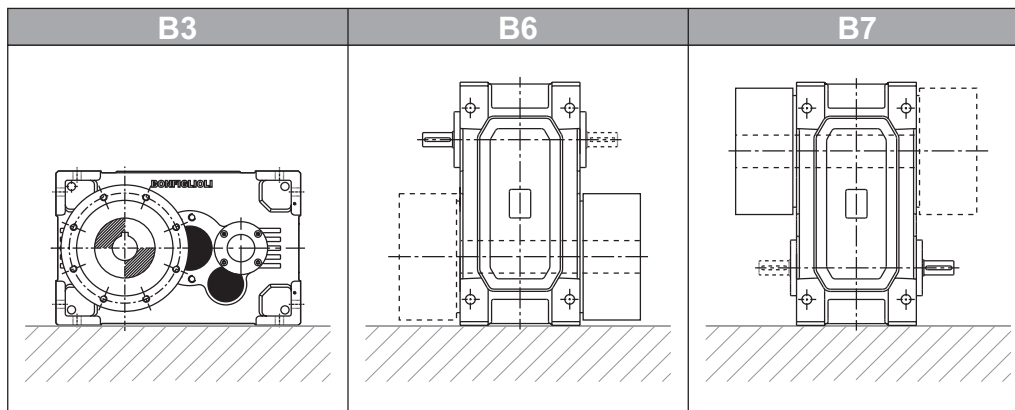
HINWEIS: Die Kombination einiger Varianten kann Konflikte technischer oder dimensionaler Art verursachen. Für eine spezifische Überprüfung bitte Rücksprache mit dem Werk halten.



3.3 - POSIZIONI DI MONTAGGIO

3.3 - MOUNTING POSITION

3.3 - EINBAULAGEN



3.4 - CONFIGURAZIONE LATO INGRESSO E USCITA

3.4 - INPUT AND OUTPUT CONFIGURATION

3.4 - KONFIGURATION ANTRIEBS UND ABTRIEBSSEITE

3.4.1 - CONFIGURAZIONE ALBERO LENTO

3.4.1 - OUTPUT SHAFT CONFIGURATION

3.4.1 - KONFIGURATION DER ABTRIEBSWELLE

Cuscinetti reggispinna di diverse dimensioni e capacità, selezionabili in funzione delle spinte esercitate dalla vite estrusore (vedi capitolo 5).

- **Attacco vite standard cilindrico con sede per chiavetta K1** (ref. UNI 6604 - vedi capitolo 5).

A richiesta sono disponibili attacchi vite di diversa dimensione e tipologia e diversi set di dimensioni per il collegamento della flangia all'estrusore.

- **Attacco vite cilindrico con due sedi per chiavetta a 180° K2** (ref. UNI 6604), specificare diametro cilindrico + K2.
- **Attacco vite per scanalati cilindrici** con fianchi paralleli o ad evolvente, specificare diametro nominale + FZ.

Contattare il Servizio Tecnico Bonfiglioli.

Thrust bearing of various dimension and capacity can be selected, based on external forces generated in the extrusion process and hollow shafts of various shapes and dimensions upon request (see section 5).

- **Standard shaft is keyed hollow (K1)** to UNI 6604 (see section 5).

Mounting dimensions to customer specifications can be provided for the connection of the output flange to the extruder.

- **Extruder screw connection with two keys at 180° K2** (ref. UNI 6604), specify cylindrical diameter + K2.
- **Extruder screw connection using straight-sides spline or involute spline**, specify nominal diameter + FZ.

Contact Bonfiglioli's Technical Service.

Verschieden große Drucklager mit unterschiedlichen Leistungswerten können je nach Schubkraft der Strangpressschnecke gewählt werden (siehe Kap. 5).

- **Zylinderförmiger Standard-Schneckenanschluss mit Passfedersitz K1** (Ref. UNI 6604 - siehe Kap. 5).

Auf Anfrage sind auch Schneckenanschlüsse in anderen Abmessungen und Ausführungen verfügbar und Anschlussbausätze in verschiedenen Größen für die Befestigung des Flansches an der Strangpresse.

- **Abtriebshohlwelle zur Befestigung der Extruderschnecke mit zwei Passfedernuten** (UNI 6604; DIN 6885) um 180° versetzt angeordnet; Hohlwellendurchmesser + K2 spezifizieren
- **Schraubenanschluss für Vielkantwellen mit Flankenevolventen Profil**, bitte den Nenndurchmesser + FZ genau angeben.

Kontaktieren Sie bitte den Technischen Service von Bonfiglioli.

3.4.2 - CONFIGURAZIONE PARTE VELOCE

3.4.2 - INPUT CONFIGURATION

3.4.2 - KONFIGURATION DER ANTRIEBSSEITE

Per l'azionamento da parte dell'organo motore il lato veloce del riduttore può essere configurato con:

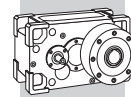
- **Albero cilindrico** – Specificare **VP**
- **Flangiatura per accoppiamento diretto** ad un motore elettrico normalizzato in forma costruttiva IM B5. L'allestimento è unicamente disponibile per i gruppi HDPE 60...HDPE 90 nell'esecuzione a tre stadi di riduzione – Specificare **AD**.

On the input side the gear unit can be arranged in either one of the configurations described here after:

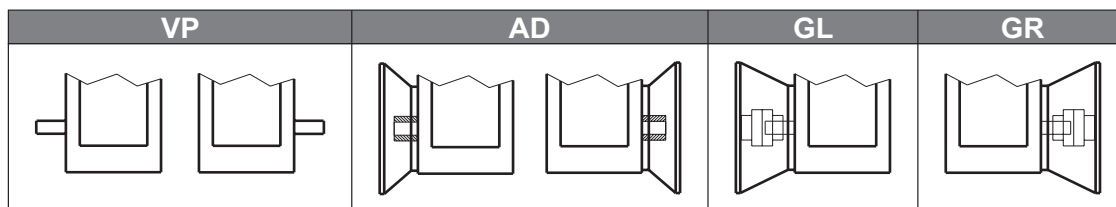
- **Solid input shaft** – Specify **VP**
- **Motor flange mounting** for an IEC-standard electric motor with IM B5 flange. The option is only applicable to units HDPE 60... HDPE 90 in the triple reduction configuration – Specify **AD**.

Auf der Antriebsseite kann das Getriebe wie nachfolgend beschrieben konfiguriert werden:

- **Zylindrische Eingangswelle** – **VP** angeben
- **Motorflanscheingang** für die Verbindung mit einem Elektromotor nach IEC-Standard in Bauform IM B5. Die Konfiguration ist nur für die Einheiten HDPE 60...HDPE 90 in der Ausführung mit drei Untersetzungsstufen erhältlich – **AD** angeben.



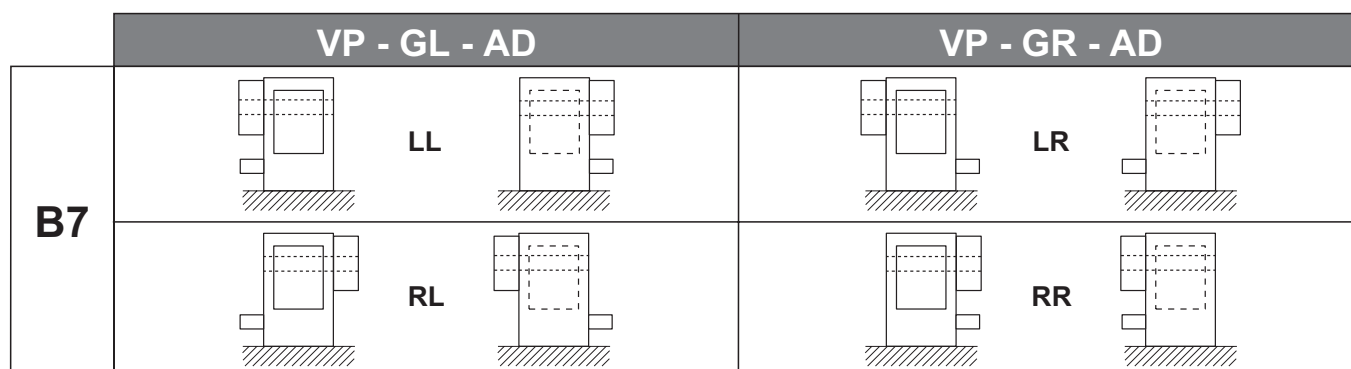
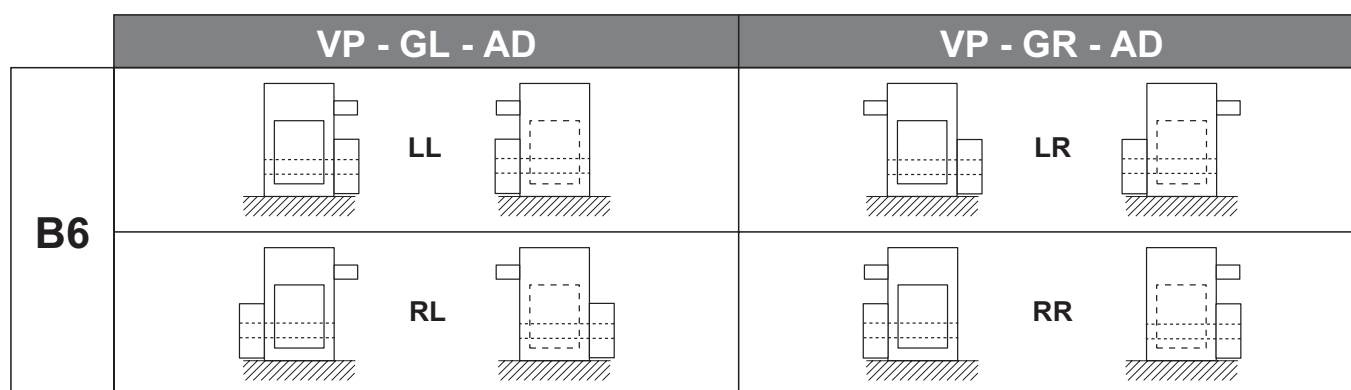
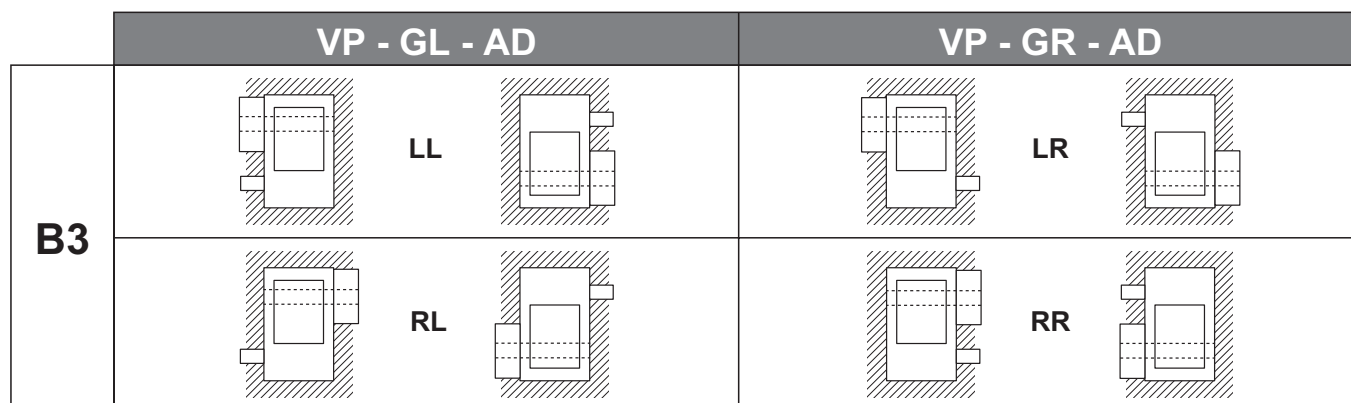
- **Flangiatura con campana attacco motore e interposizione di un giunto elastico** fra gli alberi cilindrici di motore e riduttore. Questa opzione assume la denominazione **GL** o **GR** in dipendenza del lato del riduttore su cui è richiesta la predisposizione. Il giunto elastico è parte della fornitura.
- **Motor mounting through bell housing and flexible coupling.** The option is designated **GL** or **GR** depending on what side of the gear unit the coupling is mounted. The flexible coupling is within the scope for supply.
- **Motormontage über eine Motorglocke und elastische Kupplung.** Diese Option wird in Abhängigkeit von der Montageseite mit **GL** oder **GR** angegeben. Die elastische Kupplung ist im Lieferumfang enthalten.

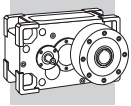


3.4.3 - DISPOSIZIONE ALBERI

3.4.3 - SHAFT ARRANGEMENT

3.4.3 - ANORDNUNG DER WELLEN





3.5 - PREDISPOSIZIONI MOTORE

Le tabelle che seguono riportano gli abbinamenti motore/riduttore che sono possibili in termini puramente geometrici. La variante è attiva se si è precedentemente specificato una configurazione veloce del tipo AD (attacco diretto), oppure GL / GR (attacco mediante giunto elastico e campana).



La normalizzazione tipica dei motori elettrici può portare a selezionare un motore caratterizzato da potenza di targa superiore alla potenza nominale P_{n1} del riduttore che si è dimensionato. Verificare che in nessuna condizione del ciclo di lavoro la maggiore potenza erogabile dal motore elettrico sia effettivamente sviluppata. In presenza di dati di calcolo incerti, o di dubbi sull'effettivo diagramma di carico dell'applicazione è consigliabile installare un dispositivo limitatore di coppia.

3.5 - MOTOR AVAILABILITY

The following charts list the motor/gearbox combinations that are geometrically feasible. Variants are only applicable if either an AD (direct motor mounting) or a GL / GR input configuration (coupling through bell housing and flexible coupling) were previously specified within the ordering code.



Because of standardisation, the rated power of the electric motor selected might be greater than power P_{r1} actually requested by the application. Make sure that the electric motor will never develop the extra power at any stage of the operating cycle. If you have any doubts about the validity of the application data, or uncertainty concerning the actual load pattern, install a torque limiting device or proportionally revise the applicable service factor.

3.5 - MOTORAUSLEGUNGEN

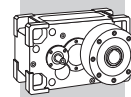
In den folgenden Tabellen sind die Motor/Getriebe Kombinationen aufgeführt, die unter rein geometrischen Aspekten möglich sind. Die Variante ist nur dann möglich, wenn entweder die Ausführung AD (Direktverbindung) oder GL / GR (Verbindung mittels elastischer Kuppelung und Glocke) bestellt wurde.



Aufgrund der Normierung von Elektromotoren kann es dazu kommen, dass ein Motor gewählt wird, dessen Nennleistung P_{n1} größer als die erforderliche Leistung P_{r1} für die Anwendung ist. Es muss sichergestellt werden, dass diese überschüssige Leistung zu keiner Zeit an das Getriebe abgegeben wird. Sollten Zweifel oder Unsicherheiten bezüglich der Belastungs- oder Anwendungsdaten bestehen, empfiehlt sich die Installation eines Drehmomentbegrenzers.

	Configurazione veloce / Input configuration / Eingangskonfiguration				
	AD				
	112	132	160	180	200
HDPE 60 3	X	X	X	X	
HDPE 70 3	X	X	X	X	X
HDPE 80 3	—	X	X	X	X
HDPE 90 3	—	—	X	X	X

Configurazione veloce / Input configuration / Eingangskonfiguration								
GL - GR								
		132	160	180	200	225	250	280
HDPE 60 2	i =	17.3_19.4	7.1_19.4	7.1_19.4	7.1_19.4	7.1_19.4	—	—
HDPE 60 3		22.7_98.4	22.7_98.4	22.7_49.1	22.7_49.1	22.7_49.1	—	—
HDPE 70 2		19.4_22.6	8.0_22.6	8.0_22.6	8.0_22.6	8.0_22.6	—	—
HDPE 70 3		25.5_114.4	25.5_114.4	25.5_57.0	25.5_57.0	25.5_57.0	—	—
HDPE 80 2		—	15.5_22.6	15.5_22.6	15.5_22.6	8.1_22.6	8.1_22.6	8.1_22.6
HDPE 80 3		—	25.8_111.4	25.8_111.4	25.8_75.2	25.8_75.2	25.8_75.2	25.8_75.2
HDPE 90 2		—	15.8_22.4	15.8_22.4	15.8_22.4	15.8_22.4	7.9_22.4	7.9_22.4
HDPE 90 3		—	25.4_110.1	25.4_110.1	25.4_110.1	25.4_73.3	25.4_73.3	25.4_73.3



Configurazione veloce / Input configuration / Eingangskonfiguration

		GL - GR						
		160	180	200	225	250	280	315(*)
HDPE 100 2	i =	—	—	—	—	7.4_21.8	7.4_21.8	7.4_21.8
HDPE 100 3		55.5_107.6	55.5_107.6	22.8_107.6	22.8_107.6	22.8_107.6	22.8_50.0	22.8_50.0
HDPE 110 2		—	—	—	—	8.1_25.0	8.1_25.0	8.1_25.0
HDPE 110 3		60.7_123.4	60.7_123.4	24.9_123.4	24.9_123.4	24.9_123.4	24.9_54.5	24.9_54.5
HDPE 120 2		—	—	—	—	—	7.9_25.4	7.9_25.4
HDPE 120 3		—	64.3_125.2	64.3_125.2	25.8_125.2	25.8_125.2	25.8_56.1	25.8_56.1
HDPE 130 2		—	—	—	—	—	—	7.3_21.7
HDPE 130 3		—	—	—	56.5_108.3	56.5_108.3	21.8_108.3	21.8_108.3
HDPE 140 2		—	—	—	—	—	—	8.4_24.9
HDPE 140 3		—	—	—	65.1_124.7	65.1_124.7	25.1_124.7	25.1_124.7

(*) Abbinamento motore possibile con supportazione esterna del motore. Per montaggio flangiato senza supporto consultare preventivamente il servizio Tecnico Bonfiglioli.

(*) *Motors can be coupled with external motor support brackets. For flange mountings with no additional support, contact Bonfiglioli's Technical Service first.*

(*) Verbindung mit Motor mit äußerer Abstützung des Motors möglich. Für die geflanschte Montage ohne Abstützung wenden Sie sich zuvor bitte an den technischen Kundendienst von Bonfiglioli.

NOTA: La selezione combinata di alcune varianti può comportare conflitti di natura tecnica o dimensionale. Consultare la fabbrica per una verifica puntuale.

REMARK: The multiple selection of some of the variants may be subject to technical or dimensional constraints. Consult with the factory to have your selection approved.

HINWEIS: Die Kombination einiger Varianten kann Konflikte technischer oder dimensionaler Art verursachen. Für eine spezifische Überprüfung bitte Rücksprache mit dem Werk halten.

3.6 - VARIANTI OPZIONALI

3.6 - OPTIONAL VARIANTS

3.6 - OPTIONALE VARIANTEN

3.6.1 - DISPOSITIVI TERMICI AUSILIARI

3.6.1 - AUXILIARY COOLING DEVICES

3.6.1 - THERMISCHE HILFSVORRICHTUNGEN

3.6.1.2 - RAFFREDDAMENTO MEDIANTE SERPENTINA

3.6.1.2 - HEAT DISSIPATION THROUGH COOLING COIL

3.6.1.2 - KÜHLUNG MITTELS KÜHLSCHLANGE

La serpentina di scambio – opzione **SR** – è prevista per essere integrata in un circuito di raffreddamento la cui realizzazione è a cura dell'installatore.

Per una resa ottimale, il circuito di alimentazione, deve corrispondere alle seguenti specifiche:

- pressione max 8 bar
- portata min 5 l/min per HDPE 60 ... HDPE 90
- portata min 10 l/min per HDPE 100 ... HDPE 140
- temperatura acqua max 20°C

In queste condizioni l'effetto della maggiore capacità di dissipazione termica è rappresentato dal valore di potenza termica P_{TSR} , rilevabile nel capitolo: [2.2.5](#)

The cooling coil option SR is designed for integration in a cooling circuit to be provided by the installer.

For optimal efficiency the cooling circuit supply must comply with the following specifications:

- max. pressure 8 bar
- min flow rate 5 l/min for HDPE 60 ... HDPE 90
- min flow rate 10 l/min for HDPE 100 ... HDPE 140
- max. water temperature 20°C

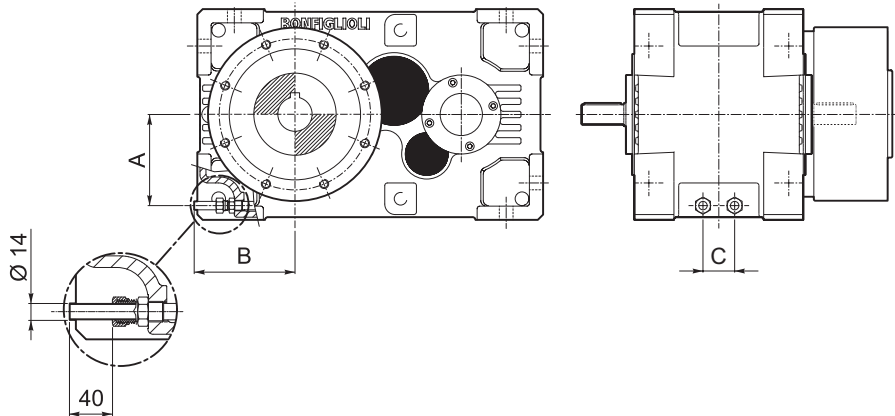
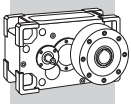
The increased cooling effect obtained in these conditions is shown by the thermal capacity value P_{TSR} . See the section, [2.2.5](#)

Die Kühlschlange – Option **SR** – ist für den Einbau in einen Kühlkreis vorgesehen, der vom Monteur realisiert werden muss.

Zur Gewährleistung eines optimalen Betriebs muss der Versorgungskreis folgende Vorgaben erfüllen:

- Max. Druck 8 bar
- Mindestdurchsatz 5 l/min für HDPE 60 ... HDPE 90
- Mindestdurchsatz 10 l/min für HDPE 100 ... HDPE 140
- Wassertemperatur max. 20°C

Die erhöhte Kühlwirkung unter diesen Bedingungen ist durch den Wert der Wärmeleistung P_{TSR} im Kapitel [2.2.5](#) angegeben.



	A	B	C
HDPE 60_SR	147	170	60
HDPE 70_SR	147	170	60
HDPE 80_SR	173	190	60
HDPE 90_SR	190	210	60
HDPE 100_SR	232	285	100
HDPE 110_SR	232	270	100
HDPE 120_SR	258	305	100
HDPE 130_SR	325	340	100
HDPE 140_SR	325	365	100

3.6.1.3 - RAFFREDDAMENTO AUSILIARIO MEDIANTE CENTRALINA AUTONOMA

Le centraline autonome di raffreddamento sono state progettate per raffreddare l'olio nei riduttori e sono fornite a bordo degli stessi, montate su apposite piastre e collegate tramite tubi rigidi e/o flessibili e relativi raccordi.

La disponibilità del dispositivo è evidenziata nella tabella seguente per ciascuna taglia di riduttore. La selezione dovrà tenere conto della potenza termica indicata come P_{TMCRW} nelle tabelle del capitolo 2.2.5.

3.6.1.3 - AUXILIARY COOLING WITH AUTONOMOUS COOLING UNIT

Autonomous cooling units are specially designed to cool gearbox lubricant. They come installed on board the gearboxes, mounted on special plates and connected to the relevant unions by rigid pipes and/or flexible hoses.

The following chart shows device availability according to gearbox size. Selection must take into consideration the thermal power indicated as P_{TMCRW} in the tables in section 2.2.5.

3.6.1.3 - HILFSKÜHLUNG ÜBER AUTONOMES KÜHLAGGREGAT

Die autonomen Kühlaggregate dienen für die Kühlung des Öls in den Getrieben. Sie sind bei der Auslieferung bereits in die Getriebe integriert, auf entsprechenden Stützplatten installiert und über Rohr- bzw. Schlauchleitungen mit dazugehörigen Anschlussverbindungen betriebsbereit angeschlossen. Die folgende Tabelle zeigt die verfügbaren Zwangsschmiersysteme für die jeweiligen Getriebegrößen. Bei der Wahl immer die in den Tabellen des Kapitels 2.2.5 unter P_{TMCRW} angegebene Wärmeleistung beachten.

	MCRW3	MCRW5	MCRW9	MCRW21	MCRW34
HDPE 60	X				
HDPE 70	X				
HDPE 80	X				
HDPE 90	X				
HDPE 100		X	X		
HDPE 110		X	X		
HDPE 120		X	X	X (*)	
HDPE 130		X	X	X	X (**)
HDPE 140		X	X	X	X (**)

(*) non disponibile per la posizione di montaggio B3.

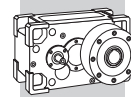
(*) not available for mounting position B3.

(*) nicht verfügbar für die Einbaulagen B3.

(**) non disponibile per i riduttori a due stadi in posizione di montaggio B3.

(**) not available for double reduction units in the mounting position B3.

(**) Für die zwei stufige Getriebe nach Bauform B3 nicht möglich.



I componenti principali delle centraline **MCRW...** sono:

- 1) Motopompa con circuito di by-pass
- 2) Filtro con indicatore di intasamento visivo *
- 3) Scambiatore di calore acqua / olio
- 4) Pressostato di minima (presente solo in caso di lubrificazione forzata)
- 5) Termostato di massima
- 6) Termostato d'inserzione *
- 7) Elettrovalvola *

The main components of the **MCRW...** cooling units are as follows:

- 1) motorpump complete with by-pass circuit
- 2) filter with clogging visual indicator *
- 3) water/oil heat exchanger
- 4) minimum pressure switch (only available in combination with forced lubrication)
- 5) maximum temperature thermostat
- 6) minimum temperature switch *
- 7) electro-valve *

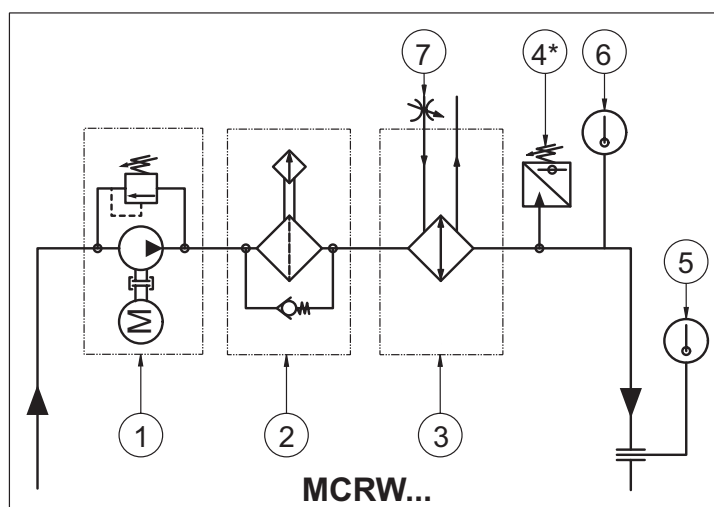
Die wichtigste Komponenten des **MCRW...** Kühlaggregats:

- 1) Motorpumpe mit By-pass Kreislauf
- 2) Filter mit Verschmutzung Schauglas *
- 3) Wasser/Öl Wärmeaustauscher
- 4) Druckschalter von Minimaldruck (Anwendend nur im Fall von Drucklaufschmierung)
- 5) Max. Druckthermostat
- 6) Min. Druckthermostat *
- 7) Elektroventil *

* Il componente non è presente nella centralina di raffreddamento MCRW3.

* This component is not present in the MCRW3 cooling unit.

* Die Komponente ist im Kühlaggregat MCRW3 nicht vorhanden.



Avvertenze di carattere generale:

prevedere un circuito di alimentazione dell'acqua che rispetti le seguenti specifiche:

- pressione max 10 bar
- temperatura di mandata max 20°C
- portata minima Q_{H_2O} come da tabella:

General warnings:

provide a water supply system that corresponds to the following specifications:

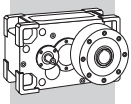
- max. pressure 10 bar
- maximum delivery temperature 20°C
- minimum flow rate Q_{H_2O} as per the chart:

Allgemeine Hinweise:

Wasserversorgungskreislauf mit folgenden Daten vorsehen:

- Max. Druck 10 bar
- Auslasstemperatur max. 20°C
- Mindestdurchsatz Q_{H_2O} wie in der Tabelle:

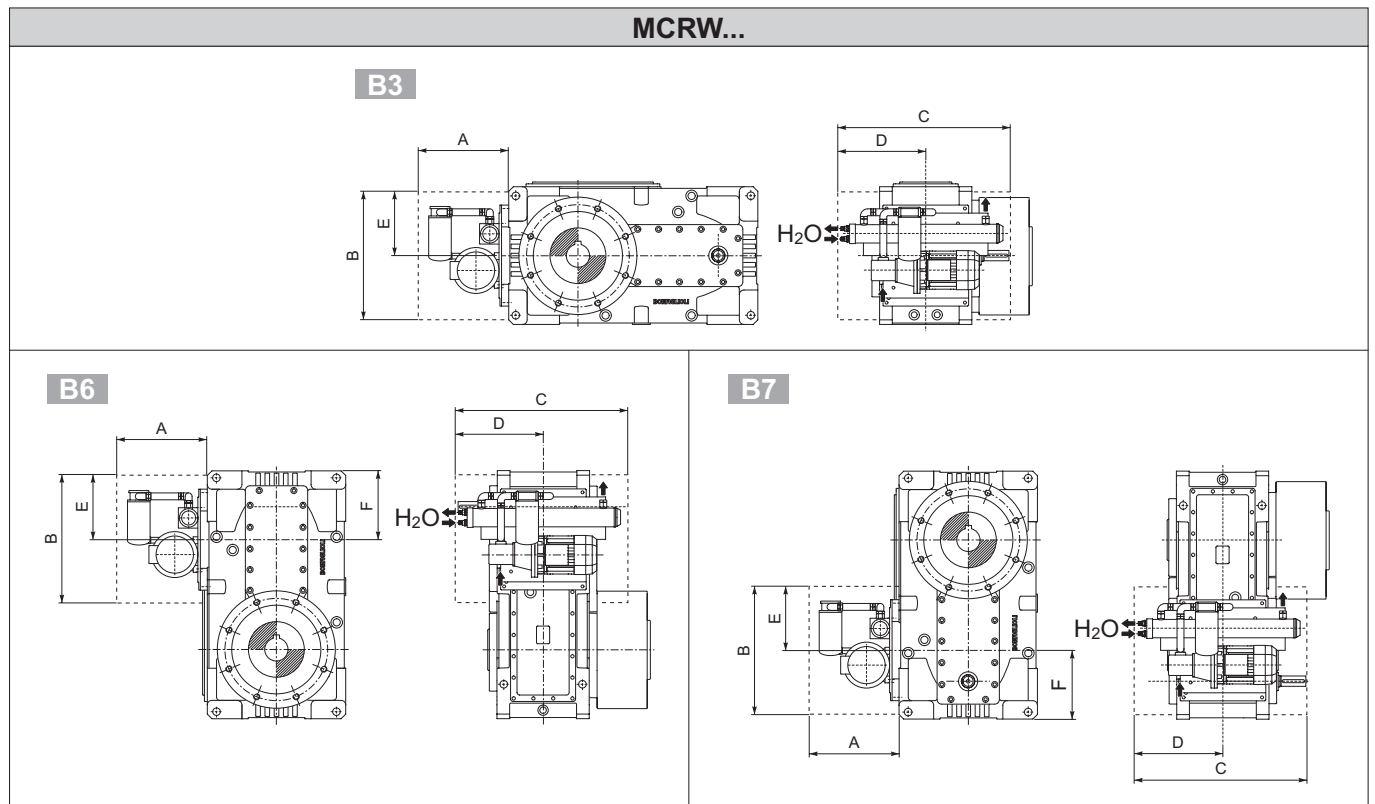
	MCRW3	MCRW5	MCRW9	MCRW21	MCRW34
Q_{H_2O} [l/min]	4	10	18	31	56



Le centraline sono installate sui riduttori come rappresentato nello schema sotto riportato.

The cooling units are mounted as shown in the figure below.

Die Aggregate werden auf den Getrieben gemäß der Zeichnung unten montiert.



	A	B	C	D	E	F					
						HDPE 100 - HDPE 110		HDPE 120		HDPE 130 - HDPE 140	
						2x	3x	2x	3x	2x	3x
MCRW3	260	265	340	170	135						
MCRW5	360	415	680	400	230						
MCRW9	360	380	810	460	195	325	270	350	300	420	380
MCRW21	400	425	720	425	240						
MCRW34	430	650	940	545	465						

! Le dimensioni d'ingombro massimo A, B, C, D ed E sono indicative.

! Overall dimensions A, B, C, D and E are indicative only

! Die Außenabmessungen A; B; C; D und E sind nur Richtabmessungen.

3.6.2 - TENUTE E GUARNIZIONI

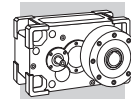
- Dotazione di anelli di tenuta con mescola in Viton® (Standard)
- DVS** Dotazione di doppio anello di tenuta con mescola in Viton® su ogni estremità d'albero (a richiesta).

3.6.2 - SEALS AND GASKETS

- Viton® compound seal rings. (standard)
- DVS** Dual set of Viton® compound seal rings at each shaft end (on request).

3.6.2 - DICHTUNGEN UND DICHTMANSCHETTEN

- Ausstattung mit Wellendichtringen aus Viton® (standard).
- DVS** Ausstattung mit doppeltem Wellendichtring aus Viton® an jedem Wellenende (auf Anfrage).



3.6.3 - SENSORI

Termostato bimetallico – Su specifica dell'opzione **TG** è fornita una sonda bimetallica termostatica per rilevare quando la temperatura dell'olio supera il valore di $90^{\circ}\text{C} \pm 5^{\circ}\text{C}$. Il dispositivo è fornito a corredo e l'installazione e il relativo cablaggio elettrico sono a cura dell'installatore.

Controllo livello olio – Su specifica dell'opzione **OLG** in fase di ordinativo è installata una sonda per il controllo remoto del livello del lubrificante. Il dispositivo è funzionante in condizioni di inattività del riduttore. Durante il funzionamento dello stesso, il dispositivo deve essere bypassato. Il cablaggio è a cura dell'installatore. Il dispositivo può non essere compatibile con altri accessori e/o alcune configurazioni, contattare il Servizio Tecnico Bonfiglioli.

3.6.4 - PROVE DOCUMENTALI

AC - Attestato di conformità

Documento il cui rilascio attesta la conformità del prodotto all'ordinativo e la costruzione dello stesso in conformità alle procedure standard di processo e di controllo previste dal sistema di Qualità Bonfiglioli Riduttori.

CC - Certificato di collaudo

La specifica comporta la conduzione di verifiche di conformità all'ordine, controlli visivi generali e verifiche strumentali delle dimensioni di accoppiamento. Sono inoltre condotti controlli generali di funzionamento a vuoto e verifiche della funzionalità delle guarnizioni di tenuta in modalità statica e in funzionamento. Il collaudo si applica ad un campione statistico del lotto di spedizione.

CT - Certificato di tipo

Oltre alle attività competenti al Certificato di collaudo si aggiungono controlli funzionali specifici relativi a:

- controllo rumorosità
- temperatura superficiale a regime
- verifica della coppia di serraggio vite-ria esterna
- funzionalità eventuali organi accessori

Tutte le attività sono condotte con funzionamento a vuoto del riduttore. Il collaudo si applica ad un campione statistico del lotto di spedizione.

3.6.3 - SENSORS

Bimetal thermostat – *If the TG option is specified, a bimetallic thermostat detects when the oil temperature exceeds $90^{\circ}\text{C} \pm 5^{\circ}\text{C}$.*

The device is supplied with the gear unit, but installation and wiring are the responsibility of the installer.

Oil level indicator – *If the OLG option is specified in the order, the gearbox is supplied with a device to permit remote control of the oil level. The device best operates when the gearbox is idle and should be bypassed when the gearbox is operating. Wiring is the responsibility of the installer. The device may not be available in combination with other accessories and/or particular product configurations. Please contact Bonfiglioli Technical Service for advise.*

3.6.4 - CERTIFICATES

AC - Certificate of compliance

The document certifies the compliance of the product with the purchase order and the construction in conformity with the applicable procedures of the Bonfiglioli Quality System.

CC - Inspection certificate

The document entails checking on order compliance, the visual inspection of external conditions and of mating dimensions. Checking on main functional parameters in unloaded conditions is also performed along with oil seal proofing, both in static and in running conditions. Units inspected are sampled within the shipping batch and marked individually.

CT - Type certificate

Further to the activities relevant to the Inspection certificate the following checks are also conducted:

- noise
- surface temperature
- tightness of external hardware
- functionality of ancillary devices, if fitted

All checks are conducted with the gear unit running unloaded. Units inspected are sampled within the shipping batch and marked individually.

3.6.3 - SENSOREN

Bimetallthermostat – Bei Bestellung der Option **TG** ist ein Bimetalltemperaturfühler verfügbar, der dazu dient, die Überschreitung des Werts $90^{\circ}\text{C} \pm 5^{\circ}\text{C}$ der Öltemperatur zu erfassen. Die Vorrichtung wird im Zubehör mitgeliefert; die Installation und die entsprechende elektrische Verkabelung müssen vom Monteur durchgeführt werden.

Ölstandkontrolle – Wird bei Auftragserteilung die Option **OLG** bestellt, erfolgt die Installation eines Fühlers für die Fernkontrolle des Ölstands. Die Vorrichtung funktioniert bei Stillstand des Getriebes. Während des Betriebs des Getriebes muss die Vorrichtung überbrückt werden. Diese Ausführung könnte nicht mit weiteren Zubehör und/oder Ausführungen möglich sein. Kontaktieren Sie bitte den Technischen Service von Bonfiglioli.

3.6.4 - NACHWEISE

AC - Konformitätsbescheinigung Dokument

mit dessen Ausstellung die Konformität des Produkts mit dem Auftrag, und dessen Konstruktion in Konformität mit den vom Qualitätsmanagementsystem von Bonfiglioli Riduttori vorgesehenen Standardfertigungs- und -kontrollverfahren bescheinigt wird.

CC – Prüfzeugnis

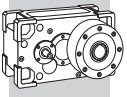
Die Bestellung führt zur Durchführung von Kontrollen der Konformität mit dem Auftrag, allgemeinen Sichtkontrollen und instrumentalen Prüfungen der Passmaße. Des Weiteren werden allgemeine Betriebskontrollen bei Leerlauf sowie Prüfungen der Funktionalität der Dichtungen bei Stillstand und während des Betriebs durchgeführt. Die Prüfung wird anhand einer Stichprobe des Versandloses durchgeführt.

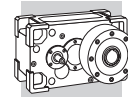
CT – Baumusterzeugnis

Zu den Tätigkeiten, die unter das Prüfzeugnis fallen, kommen spezifische Funktionskontrollen in Bezug auf:

- Geräuscentwicklung
- Oberflächentemperatur bei Betriebsdrehzahl
- Prüfung des Anzugsmoments der äußeren Schrauben
- Funktionalität eventueller zusätzlicher Organe

Alle Vorgänge werden bei Leerlauf des Getriebes durchgeführt. Die Prüfung wird anhand einer Stichprobe des Versandloses durchgeführt.





4 - COPPIA MASSIMA TRASMISSIBILE



I momenti torcenti riportati in tabella possono subire delle limitazioni in funzione del componente più sollecitato alle diverse velocità di rotazione (vedere capitolo "Potenza termica e dati tecnici").

4 - MAXIMUM TRANSMISSIBLE TORQUE

The torque values given in the table may be reduced depending on what component is most stressed at the various rotation speeds (see the "Thermal Capacities and Technical Specifications" section).

4 - ÜBERSETZBARES MAXIMALES DREHMOMENT

Für die in der Tabelle aufgeführten Torsionsmomente sind Begrenzungen nicht auszuschließen; dies ist von der höheren Belastung der Komponente bei den verschiedenen Drehzahlen abhängig (siehe Kapitel "Wärmeleistung und technische Daten").

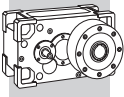
HDPE											
		Mn _{2max} [Nm]									
		iN	HDPE 60	HDPE 70	HDPE 80	HDPE 90	HDPE 100	HDPE 110	HDPE 120	HDPE 130	HDPE 140
2x 	7.1	5000	—	—	—	22600	—	—	63250	—	
	8.0	4600	6200	10350	14000	23100	24050	34900	60700	77100	
	9.0	5000	6850	12050	15600	23150	25400	36500	63250	79150	
	10.0	4600	6750	11350	17650	23100	24450	35550	60700	77100	
	11.2	5000	6850	12250	16750	23450	25800	37100	63250	77100	
	12.5	4600	6750	11500	17650	23100	24750	36000	60700	77100	
	14.0	5000	6850	12250	16750	23750	26100	37200	63250	77100	
	16.0	4600	6750	11750	17000	23100	25050	36350	60700	77100	
	18.0	5000	6850	11950	16750	23950	26450	37200	63250	79150	
	20.0	4600	6750	11900	17650	23100	25350	36700	60700	74700	
	22.4	—	6850	12250	16750	21700	26700	37200	57400	79150	
25.0	—	—	—	—	—	25900	34300	—	71700		
3x 	22.4	4950	—	—	—	25650	—	—	60750	—	
	25.0	4600	6750	9900	17650	23100	27600	36450	60700	70400	
	28.0	5000	6850	11500	16750	25650	28900	37200	63250	77950	
	31.5	4600	6750	11650	17650	23100	27950	37500	60700	77100	
	35.5	5000	6850	12250	16750	25650	28900	37200	63250	79150	
	40.0	4600	6750	12600	17650	23100	28300	37500	60700	77100	
	45.0	5000	6850	12250	16750	25650	28900	37200	63250	79150	
	50.0	4600	6750	11950	17650	23100	28500	37500	60700	74700	
	56.0	5000	6850	12250	16750	25650	28900	37200	63250	79150	
	63.0	4600	6750	12600	17650	23100	27950	37500	60700	77100	
	71.0	5000	6850	12250	16750	25650	28900	37200	63250	79150	
	80.0	4600	6750	12000	17650	23100	28300	37500	60700	77100	
	90.0	5000	6850	12250	16750	25650	28900	37200	63250	79150	
	100.0	4600	6750	12600	17650	23100	28500	37500	60700	74700	
112.0	—	6850	12250	16750	21700	28900	37200	57400	79150		
125.0	—	—	—	—	—	25900	34300	—	71700		

4.1 - POTENZA TERMICA E DATI TECNICI


4.1 - THERMAL CAPACITY AND RATING CHARTS

4.1 - WARMELEISTUNG UND AUSWAHLTABELLEN

P _T	Potenza termica complessiva	Overall thermal capacity	Gesamtwärmeleistung
P _{TFAN...}	Potenza termica comprensiva del contributo fornito dalla ventilazione forzata	Thermal capacity with the contribution of forced ventilation	Wärmeleistung einschließlich des Beitrags durch die Zwangsbelüftung
P _{TSR}	Potenza termica comprensiva del contributo fornito dalla serpentina di raffreddamento	Thermal capacity inclusive of contribution from cooling coil	Wärmeleistung einschließlich des Beitrags durch die Kühlturbine
P _{TMCR...}	Potenza termica comprensiva del contributo fornito dalla centralina di raffreddamento con scambiatore aria/olio	Thermal capacity inclusive of contribution from air/oil exchanger cooling unit	Wärmeleistung einschließlich des Beitrags durch das Kühlaggregat mit Luft-Öl-Wärmetauscher
P _{TMCRW...}	Potenza termica comprensiva del contributo fornito dalla centralina di raffreddamento con scambiatore acqua/olio	Thermal capacity inclusive of contribution from water/oil exchanger cooling unit	Wärmeleistung einschließlich des Beitrags durch das Kühlaggregat mit Wasser-Öl-Wärmetauscher



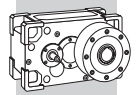
HDPE 60


		$n_1 = 1750 \text{ min}^{-1}$								
		$T_{amb} = 20^\circ\text{C}$						$T_{amb} = 40^\circ\text{C}$		
	i	n_2 [rpm]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	P_{TSR} [kW]	P_{TMCRW3} [kW]	P_T [kW]	P_{TSR} [kW]	P_{TMCRW3} [kW]
HDPE 60 2	7.1	245	3900	104	*	67	85	*	53	71
HDPE 60 2	8.0	218	4000	95	*	67	85	*	53	71
HDPE 60 2	9.0	195	4200	89	*	67	85	*	53	71
HDPE 60 2	10.1	174	4250	80	40	67	-	*	53	71
HDPE 60 2	11.2	157	4500	77	40	67	-	*	53	71
HDPE 60 2	12.5	140	4600	70	40	-	-	29	53	-
HDPE 60 2	13.5	129	4800	68	40	-	-	29	53	-
HDPE 60 2	15.2	115	4600	58	40	-	-	29	53	-
HDPE 60 2	17.3	101	4750	52	40	-	-	29	-	-
HDPE 60 2	19.4	90	4600	45	40	-	-	29	-	-
HDPE 60 3	22.7	77	4050	35	27	-	-	17	-	-
HDPE 60 3	25.5	69	4200	32	27	-	-	17	-	-
HDPE 60 3	28.2	62	4500	31	27	-	-	17	-	-
HDPE 60 3	31.7	55	4350	27	-	-	-	17	-	-
HDPE 60 3	34.2	51	4700	27	-	-	-	17	-	-
HDPE 60 3	38.5	45	4600	23	-	-	-	17	-	-
HDPE 60 3	43.7	40	4900	22	-	-	-	17	-	-
HDPE 60 3	49.1	36	4600	18.2	-	-	-	17	-	-
HDPE 60 3	56.6	31	4800	16.5	-	-	-	-	-	-
HDPE 60 3	63.6	27.5	4600	14.1	-	-	-	-	-	-
HDPE 60 3	68.6	25.5	5000	14.2	-	-	-	-	-	-
HDPE 60 3	77.1	22.7	4600	11.6	-	-	-	-	-	-
HDPE 60 3	87.6	20.0	5000	11.1	-	-	-	-	-	-
HDPE 60 3	98.4	17.8	4600	9.1	-	-	-	-	-	-


		$n_1 = 1400 \text{ min}^{-1}$								
		$T_{amb} = 20^\circ\text{C}$						$T_{amb} = 40^\circ\text{C}$		
HDPE 60 2	7.1	196	4200	90	39	71	89	*	57	75
HDPE 60 2	8.0	174	4250	81	39	71	-	*	57	75
HDPE 60 2	9.0	156	4500	77	39	71	-	*	57	75
HDPE 60 2	10.1	139	4550	69	39	-	-	28	57	-
HDPE 60 2	11.2	125	4800	66	39	-	-	28	57	-
HDPE 60 2	12.5	112	4600	56	39	-	-	28	-	-
HDPE 60 2	13.5	103	4950	56	39	-	-	28	-	-
HDPE 60 2	15.2	92	4600	46	39	-	-	28	-	-
HDPE 60 2	17.3	81	5000	44	39	-	-	28	-	-
HDPE 60 2	19.4	72	4600	36	-	-	-	28	-	-
HDPE 60 3	22.7	62	4350	30	29	-	-	19	-	-
HDPE 60 3	25.5	55	4500	27	-	-	-	19	-	-
HDPE 60 3	28.2	50	4800	26	-	-	-	19	-	-
HDPE 60 3	31.7	44	4600	23	-	-	-	19	-	-
HDPE 60 3	34.2	41	5000	23	-	-	-	19	-	-
HDPE 60 3	38.5	36	4600	18.6	-	-	-	-	-	-
HDPE 60 3	43.7	32	5000	17.8	-	-	-	-	-	-
HDPE 60 3	49.1	28.5	4600	14.6	-	-	-	-	-	-
HDPE 60 3	56.6	24.7	5000	13.8	-	-	-	-	-	-
HDPE 60 3	63.6	22.0	4600	11.3	-	-	-	-	-	-
HDPE 60 3	68.6	20.4	5000	11.3	-	-	-	-	-	-
HDPE 60 3	77.1	18.2	4600	9.3	-	-	-	-	-	-
HDPE 60 3	87.6	16.0	5000	8.9	-	-	-	-	-	-
HDPE 60 3	98.4	14.2	4600	7.3	-	-	-	-	-	-

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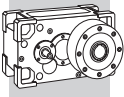


HDPE 60										
n ₁ = 1100 min ⁻¹										
T _{amb} = 20°C										
T _{amb} = 40°C										
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]
HDPE 60 2	7.1	154	4500	76	42	74	—	*	60	—
HDPE 60 2	8.0	137	4600	69	42	—	—	28	60	—
HDPE 60 2	9.0	123	4750	64	42	—	—	28	60	—
HDPE 60 2	10.1	109	4600	55	42	—	—	28	—	—
HDPE 60 2	11.2	99	4950	53	42	—	—	28	—	—
HDPE 60 2	12.5	88	4600	44	—	—	—	28	—	—
HDPE 60 2	13.5	81	5000	44	—	—	—	28	—	—
HDPE 60 2	15.2	72	4600	36	—	—	—	28	—	—
HDPE 60 2	17.3	64	5000	35	—	—	—	28	—	—
HDPE 60 2	19.4	57	4600	28	—	—	—	—	—	—
HDPE 60 3	22.7	48	4650	25	—	—	—	21	—	—
HDPE 60 3	25.5	43	4600	22	—	—	—	—	—	—
HDPE 60 3	28.2	39	5000	22	—	—	—	—	—	—
HDPE 60 3	31.7	35	4600	17.8	—	—	—	—	—	—
HDPE 60 3	34.2	32	5000	17.9	—	—	—	—	—	—
HDPE 60 3	38.5	28.6	4600	14.6	—	—	—	—	—	—
HDPE 60 3	43.7	25.2	5000	14.0	—	—	—	—	—	—
HDPE 60 3	49.1	22.4	4600	11.5	—	—	—	—	—	—
HDPE 60 3	56.6	19.4	5000	10.8	—	—	—	—	—	—
HDPE 60 3	63.6	17.3	4600	8.9	—	—	—	—	—	—
HDPE 60 3	68.6	16.0	5000	8.9	—	—	—	—	—	—
HDPE 60 3	77.1	14.3	4600	7.3	—	—	—	—	—	—
HDPE 60 3	87.6	12.6	5000	7.0	—	—	—	—	—	—
HDPE 60 3	98.4	11.2	4600	5.7	—	—	—	—	—	—


n ₁ = 900 min ⁻¹										
T _{amb} = 20°C										
T _{amb} = 40°C										
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]
HDPE 60 2	7.1	126	4750	65	45	—	—	30	62	—
HDPE 60 2	8.0	112	4600	56	45	—	—	30	—	—
HDPE 60 2	9.0	100	4950	54	45	—	—	30	—	—
HDPE 60 2	10.1	89	4600	45	—	—	—	30	—	—
HDPE 60 2	11.2	81	5000	44	—	—	—	30	—	—
HDPE 60 2	12.5	72	4600	36	—	—	—	30	—	—
HDPE 60 2	13.5	67	5000	36	—	—	—	30	—	—
HDPE 60 2	15.2	59	4600	30	—	—	—	—	—	—
HDPE 60 2	17.3	52	5000	28	—	—	—	—	—	—
HDPE 60 2	19.4	46	4600	23	—	—	—	—	—	—
HDPE 60 3	22.7	40	4950	22	—	—	—	—	—	—
HDPE 60 3	25.5	35	4600	18.1	—	—	—	—	—	—
HDPE 60 3	28.2	32	5000	17.7	—	—	—	—	—	—
HDPE 60 3	31.7	28.4	4600	14.5	—	—	—	—	—	—
HDPE 60 3	34.2	26.3	5000	14.6	—	—	—	—	—	—
HDPE 60 3	38.5	23.4	4600	12.0	—	—	—	—	—	—
HDPE 60 3	43.7	20.6	5000	11.5	—	—	—	—	—	—
HDPE 60 3	49.1	18.3	4600	9.4	—	—	—	—	—	—
HDPE 60 3	56.6	15.9	5000	8.8	—	—	—	—	—	—
HDPE 60 3	63.6	14.2	4600	7.2	—	—	—	—	—	—
HDPE 60 3	68.6	13.1	5000	7.3	—	—	—	—	—	—
HDPE 60 3	77.1	11.7	4600	6.0	—	—	—	—	—	—
HDPE 60 3	87.6	10.3	5000	5.7	—	—	—	—	—	—
HDPE 60 3	98.4	9.1	4600	4.7	—	—	—	—	—	—

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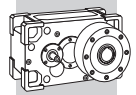
HDPE 70


		$n_1 = 1750 \text{ min}^{-1}$								
		$T_{amb} = 20^\circ\text{C}$						$T_{amb} = 40^\circ\text{C}$		
	i	n_2 [rpm]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	P_{TSR} [kW]	P_{TMCRW3} [kW]	P_T [kW]	P_{TSR} [kW]	P_{TMCRW3} [kW]
HDPE 70 2	8.0	218	5100	121	*	68	86	*	53	71
HDPE 70 2	9.3	188	5300	108	*	68	86	*	53	71
HDPE 70 2	10.1	173	5450	103	41	68	86	*	53	71
HDPE 70 2	11.7	149	5650	92	41	68	86	*	53	71
HDPE 70 2	12.6	139	5900	90	41	68	86	*	53	71
HDPE 70 2	14.6	120	6100	80	41	68	—	*	53	71
HDPE 70 2	15.2	115	6300	79	41	68	—	32	53	71
HDPE 70 2	17.7	99	6500	70	41	68	—	32	53	—
HDPE 70 2	19.4	90	6550	64	41	—	—	32	53	—
HDPE 70 2	22.6	78	6850	58	41	—	—	32	—	—
HDPE 70 3	25.5	69	6500	50	27	45	—	*	34	—
HDPE 70 3	29.6	59	6850	45	27	—	—	*	34	—
HDPE 70 3	31.7	55	6000	37	27	—	—	18	34	—
HDPE 70 3	36.9	47	6200	33	27	—	—	18	—	—
HDPE 70 3	38.5	45	6400	32	27	—	—	18	—	—
HDPE 70 3	44.7	39	6450	28	27	—	—	18	—	—
HDPE 70 3	49.1	36	6750	27	—	—	—	18	—	—
HDPE 70 3	57.0	31	6850	23	—	—	—	18	—	—
HDPE 70 3	63.7	27.5	6050	18.5	—	—	—	—	—	—
HDPE 70 3	73.9	23.7	6650	17.5	—	—	—	—	—	—
HDPE 70 3	77.2	22.7	6600	16.6	—	—	—	—	—	—
HDPE 70 3	89.6	19.5	6850	14.9	—	—	—	—	—	—
HDPE 70 3	98.5	17.8	6750	13.3	—	—	—	—	—	—
HDPE 70 3	114.4	15.3	6850	11.7	—	—	—	—	—	—

		$n_1 = 1400 \text{ min}^{-1}$								
		$T_{amb} = 20^\circ\text{C}$						$T_{amb} = 40^\circ\text{C}$		
HDPE 70 2	8.0	174	5450	103	40	72	90	*	57	75
HDPE 70 2	9.3	150	5650	92	40	72	90	*	57	75
HDPE 70 2	10.1	139	5850	89	40	72	—	*	57	75
HDPE 70 2	11.7	120	6050	79	40	72	—	*	57	75
HDPE 70 2	12.6	112	6300	77	40	72	—	32	57	75
HDPE 70 2	14.6	96	6500	68	40	—	—	32	57	—
HDPE 70 2	15.2	92	6700	67	40	—	—	32	57	—
HDPE 70 2	17.7	79	6850	59	40	—	—	32	—	—
HDPE 70 2	19.4	72	6750	53	40	—	—	32	—	—
HDPE 70 2	22.6	62	6850	46	40	—	—	32	—	—
HDPE 70 3	25.5	55	6750	41	29	—	—	19	37	—
HDPE 70 3	29.6	47	6850	36	29	—	—	19	—	—
HDPE 70 3	31.7	44	6400	31	29	—	—	19	—	—
HDPE 70 3	36.9	38	6600	28	—	—	—	19	—	—
HDPE 70 3	38.5	36	6750	27	—	—	—	19	—	—
HDPE 70 3	44.7	31	6850	24	—	—	—	19	—	—
HDPE 70 3	49.1	28.5	6750	21	—	—	—	19	—	—
HDPE 70 3	57.0	24.5	6850	18.7	—	—	—	—	—	—
HDPE 70 3	63.7	22.0	6500	15.9	—	—	—	—	—	—
HDPE 70 3	73.9	18.9	6850	14.4	—	—	—	—	—	—
HDPE 70 3	77.2	18.1	6750	13.6	—	—	—	—	—	—
HDPE 70 3	89.6	15.6	6850	11.9	—	—	—	—	—	—
HDPE 70 3	98.5	14.2	6750	10.7	—	—	—	—	—	—
HDPE 70 3	114.4	12.2	6850	9.3	—	—	—	—	—	—

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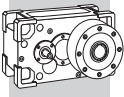


HDPE 70										
n ₁ = 1100 min ⁻¹										
T _{amb} = 20°C										
T _{amb} = 40°C										
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]
HDPE 70 2	8.0	137	5850	87	44	76	—	*	61	79
HDPE 70 2	9.3	118	6050	78	44	76	—	*	61	—
HDPE 70 2	10.1	109	6300	75	44	—	—	32	64	—
HDPE 70 2	11.7	94	6500	67	44	—	—	32	64	—
HDPE 70 2	12.6	88	6750	65	44	—	—	32	—	—
HDPE 70 2	14.6	75	6850	56	44	—	—	32	—	—
HDPE 70 2	15.2	72	6750	53	44	—	—	32	—	—
HDPE 70 2	17.7	62	6850	46	—	—	—	32	—	—
HDPE 70 2	19.4	57	6750	42	—	—	—	32	—	—
HDPE 70 2	22.6	49	6850	36	—	—	—	32	—	—
HDPE 70 3	25.5	43	6750	32	31	—	—	21	—	—
HDPE 70 3	29.6	37	6850	28	—	—	—	21	—	—
HDPE 70 3	31.7	35	6750	26	—	—	—	21	—	—
HDPE 70 3	36.9	29.8	6850	23	—	—	—	21	—	—
HDPE 70 3	38.5	28.6	6750	21	—	—	—	—	—	—
HDPE 70 3	44.7	24.6	6850	18.7	—	—	—	—	—	—
HDPE 70 3	49.1	22.4	6750	16.8	—	—	—	—	—	—
HDPE 70 3	57.0	19.3	6850	14.7	—	—	—	—	—	—
HDPE 70 3	63.7	17.3	6750	13.0	—	—	—	—	—	—
HDPE 70 3	73.9	14.9	6850	11.3	—	—	—	—	—	—
HDPE 70 3	77.2	14.2	6750	10.7	—	—	—	—	—	—
HDPE 70 3	89.6	12.3	6850	9.4	—	—	—	—	—	—
HDPE 70 3	98.5	11.2	6750	8.4	—	—	—	—	—	—
HDPE 70 3	114.4	9.6	6850	7.3	—	—	—	—	—	—

n ₁ = 900 min ⁻¹										
T _{amb} = 20°C										
T _{amb} = 40°C										
HDPE 70 2	8.0	112	6200	76	46	—	—	31	63	—
HDPE 70 2	9.3	96	6450	68	46	—	—	31	63	—
HDPE 70 2	10.1	89	6700	65	46	—	—	31	63	—
HDPE 70 2	11.7	77	6850	57	46	—	—	31	—	—
HDPE 70 2	12.6	72	6750	53	46	—	—	31	—	—
HDPE 70 2	14.6	62	6850	46	—	—	—	31	—	—
HDPE 70 2	15.2	59	6750	44	—	—	—	31	—	—
HDPE 70 2	17.7	51	6850	38	—	—	—	31	—	—
HDPE 70 2	19.4	46	6750	34	—	—	—	31	—	—
HDPE 70 2	22.6	40	6850	30	—	—	—	—	—	—
HDPE 70 3	25.5	35	6750	26	—	—	—	22	—	—
HDPE 70 3	29.6	30	6850	23	—	—	—	—	—	—
HDPE 70 3	31.7	28.3	6750	21	—	—	—	—	—	—
HDPE 70 3	36.9	24.4	6850	18.6	—	—	—	—	—	—
HDPE 70 3	38.5	23.4	6750	17.6	—	—	—	—	—	—
HDPE 70 3	44.7	20.1	6850	15.3	—	—	—	—	—	—
HDPE 70 3	49.1	18.3	6750	13.8	—	—	—	—	—	—
HDPE 70 3	57.0	15.8	6850	12.0	—	—	—	—	—	—
HDPE 70 3	63.7	14.1	6750	10.6	—	—	—	—	—	—
HDPE 70 3	73.9	12.2	6850	9.3	—	—	—	—	—	—
HDPE 70 3	77.2	11.7	6750	8.8	—	—	—	—	—	—
HDPE 70 3	89.6	10.0	6850	7.7	—	—	—	—	—	—
HDPE 70 3	98.5	9.1	6750	6.9	—	—	—	—	—	—
HDPE 70 3	114.4	7.9	6850	6.0	—	—	—	—	—	—

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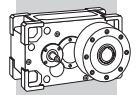
HDPE 80

n ₁ = 1750 min ⁻¹												
	i	T _{amb} = 20°C							T _{amb} = 40°C			
		n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]
HDPE 80 2	8.1	217	8900	211	*	106	115	181	*	85	94	160
HDPE 80 2	9.4	187	9200	188	*	106	115	181	*	85	94	160
HDPE 80 2	9.8	178	9500	184	67	106	115	181	*	85	94	160
HDPE 80 2	11.4	153	9850	164	67	106	115	–	*	85	94	160
HDPE 80 2	12.6	139	10350	157	67	106	115	–	*	85	94	–
HDPE 80 2	14.6	120	10650	139	67	106	115	–	*	85	94	–
HDPE 80 2	15.5	113	11050	136	67	106	115	–	51	85	94	–
HDPE 80 2	18.0	97	10900	116	67	106	115	–	51	85	94	–
HDPE 80 2	19.4	90	11550	113	67	–	–	–	51	85	94	–
HDPE 80 2	22.6	78	11450	97	67	–	–	–	51	85	94	–
HDPE 80 3	25.8	68	9550	72	40	68	–	–	*	54	62	–
HDPE 80 3	30.0	58	10700	70	40	68	–	–	*	54	62	–
HDPE 80 3	31.7	55	10250	63	40	–	–	–	28	54	–	–
HDPE 80 3	36.8	48	11600	61	40	–	–	–	28	54	–	–
HDPE 80 3	39.8	44	10900	53	40	–	–	–	28	–	–	–
HDPE 80 3	46.2	38	12250	52	40	–	–	–	28	–	–	–
HDPE 80 3	51.6	34	11950	45	40	–	–	–	28	–	–	–
HDPE 80 3	59.9	29.2	12250	40	–	–	–	–	28	–	–	–
HDPE 80 3	64.8	27.0	12600	38	–	–	–	–	28	–	–	–
HDPE 80 3	75.2	23.3	12250	32	–	–	–	–	28	–	–	–
HDPE 80 3	76.4	22.9	11200	29	–	–	–	–	28	–	–	–
HDPE 80 3	88.7	19.7	12250	27	–	–	–	–	–	–	–	–
HDPE 80 3	95.9	18.2	12550	25	–	–	–	–	–	–	–	–
HDPE 80 3	111.4	15.7	12250	21	–	–	–	–	–	–	–	–


n ₁ = 1400 min ⁻¹												
	i	T _{amb} = 20°C							T _{amb} = 40°C			
		n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]
HDPE 80 2	8.1	174	9500	180	67	108	117	–	*	87	96	162
HDPE 80 2	9.4	150	9850	161	67	108	117	–	*	87	96	–
HDPE 80 2	9.8	142	10150	157	67	108	117	–	*	87	96	–
HDPE 80 2	11.4	123	10550	141	67	108	117	–	*	87	96	–
HDPE 80 2	12.6	111	11050	134	67	108	117	–	51	87	96	–
HDPE 80 2	14.6	96	11400	119	67	108	117	–	51	87	96	–
HDPE 80 2	15.5	90	11750	116	67	108	–	–	51	87	96	–
HDPE 80 2	18.0	78	11700	99	67	–	–	–	51	87	96	–
HDPE 80 2	19.4	72	11900	93	67	–	–	–	51	87	96	–
HDPE 80 2	22.6	62	12250	83	67	–	–	–	51	–	–	–
HDPE 80 3	25.8	54	9900	60	43	–	–	–	29	57	–	–
HDPE 80 3	30.0	47	11450	60	43	–	–	–	29	57	–	–
HDPE 80 3	31.7	44	11000	54	43	–	–	–	29	–	–	–
HDPE 80 3	36.8	38	12250	52	43	–	–	–	29	–	–	–
HDPE 80 3	39.8	35	11650	46	43	–	–	–	29	–	–	–
HDPE 80 3	46.2	30	12250	41	–	–	–	–	29	–	–	–
HDPE 80 3	51.6	27.1	11950	36	–	–	–	–	29	–	–	–
HDPE 80 3	59.9	23.4	12250	32	–	–	–	–	29	–	–	–
HDPE 80 3	64.8	21.6	12600	30	–	–	–	–	–	–	–	–
HDPE 80 3	75.2	18.6	12250	25	–	–	–	–	–	–	–	–
HDPE 80 3	76.4	18.3	12000	24	–	–	–	–	–	–	–	–
HDPE 80 3	88.7	15.8	12250	22	–	–	–	–	–	–	–	–
HDPE 80 3	95.9	14.6	12600	20	–	–	–	–	–	–	–	–
HDPE 80 3	111.4	12.6	12250	17.1	–	–	–	–	–	–	–	–


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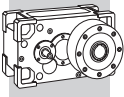
HDPE 80

n ₁ = 1100 min ⁻¹												
	i				T _{amb} = 20°C				T _{amb} = 40°C			
		n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]
HDPE 80 2	8.1	136	10250	152	69	110	119	—	*	90	99	—
HDPE 80 2	9.4	118	10550	135	69	110	119	—	*	90	99	—
HDPE 80 2	9.8	112	10950	133	69	110	119	—	50	90	99	—
HDPE 80 2	11.4	96	11350	119	69	110	—	—	50	90	99	—
HDPE 80 2	12.6	87	11500	109	69	—	—	—	50	90	99	—
HDPE 80 2	14.6	75	12250	100	69	—	—	—	50	90	—	—
HDPE 80 2	15.5	71	11750	91	69	—	—	—	50	—	—	—
HDPE 80 2	18.0	61	11950	80	69	—	—	—	50	—	—	—
HDPE 80 2	19.4	57	11900	73	69	—	—	—	50	—	—	—
HDPE 80 2	22.6	49	12250	65	—	—	—	—	50	—	—	—
HDPE 80 3	25.8	43	9900	47	45	—	—	—	31	—	—	—
HDPE 80 3	30.0	37	11500	47	45	—	—	—	31	—	—	—
HDPE 80 3	31.7	35	11650	45	—	—	—	—	31	—	—	—
HDPE 80 3	36.8	29.9	12250	41	—	—	—	—	31	—	—	—
HDPE 80 3	39.8	27.6	12550	39	—	—	—	—	31	—	—	—
HDPE 80 3	46.2	23.8	12250	32	—	—	—	—	—	—	—	—
HDPE 80 3	51.6	21.3	11950	28	—	—	—	—	—	—	—	—
HDPE 80 3	59.9	18.4	12250	25	—	—	—	—	—	—	—	—
HDPE 80 3	64.8	17.0	12600	24	—	—	—	—	—	—	—	—
HDPE 80 3	75.2	14.6	12250	19.9	—	—	—	—	—	—	—	—
HDPE 80 3	76.4	14.4	12000	19.2	—	—	—	—	—	—	—	—
HDPE 80 3	88.7	12.4	12250	16.9	—	—	—	—	—	—	—	—
HDPE 80 3	95.9	11.5	12600	16.1	—	—	—	—	—	—	—	—
HDPE 80 3	111.4	9.9	12250	13.5	—	—	—	—	—	—	—	—

n ₁ = 900 min ⁻¹												
	i				T _{amb} = 20°C				T _{amb} = 40°C			
		n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]
HDPE 80 2	8.1	112	10350	126	71	112	121	—	50	91	100	—
HDPE 80 2	9.4	96	11250	118	71	112	—	—	50	91	100	—
HDPE 80 2	9.8	91	11350	113	71	112	—	—	50	91	100	—
HDPE 80 2	11.4	79	12050	103	71	—	—	—	50	91	—	—
HDPE 80 2	12.6	71	11500	90	71	—	—	—	50	—	—	—
HDPE 80 2	14.6	62	12250	82	71	—	—	—	50	—	—	—
HDPE 80 2	15.5	58	11750	74	—	—	—	—	50	—	—	—
HDPE 80 2	18.0	50	11950	65	—	—	—	—	50	—	—	—
HDPE 80 2	19.4	46	11900	60	—	—	—	—	50	—	—	—
HDPE 80 2	22.6	40	12250	53	—	—	—	—	—	—	—	—
HDPE 80 3	25.8	35	9900	38	—	—	—	—	33	—	—	—
HDPE 80 3	30.0	30	11500	38	—	—	—	—	33	—	—	—
HDPE 80 3	31.7	28.4	11650	37	—	—	—	—	33	—	—	—
HDPE 80 3	36.8	24.4	12250	33	—	—	—	—	—	—	—	—
HDPE 80 3	39.8	22.6	12600	32	—	—	—	—	—	—	—	—
HDPE 80 3	46.2	19.5	12250	27	—	—	—	—	—	—	—	—
HDPE 80 3	51.6	17.4	11950	23	—	—	—	—	—	—	—	—
HDPE 80 3	59.9	15.0	12250	20	—	—	—	—	—	—	—	—
HDPE 80 3	64.8	13.9	12600	19.5	—	—	—	—	—	—	—	—
HDPE 80 3	75.2	12.0	12250	16.3	—	—	—	—	—	—	—	—
HDPE 80 3	76.4	11.8	12000	15.7	—	—	—	—	—	—	—	—
HDPE 80 3	88.7	10.1	12250	13.8	—	—	—	—	—	—	—	—
HDPE 80 3	95.9	9.4	12600	13.2	—	—	—	—	—	—	—	—
HDPE 80 3	111.4	8.1	12250	11.0	—	—	—	—	—	—	—	—

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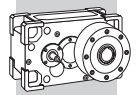
HDPE 90


n ₁ = 1750 min ⁻¹													
	i	n ₂ Mn ₂ Pn ₁											
		T _{amb} = 20°C											
		T _{amb} = 40°C											
		n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]	
HDPE 90 2	7.9	221	11700	282	*	131	133	199	*	*	*	172	
HDPE 90 2	8.8	198	12250	265	*	131	133	199	*	*	106	172	
HDPE 90 2	10.1	174	12700	241	*	131	133	199	*	108	106	172	
HDPE 90 2	11.2	156	13250	226	*	131	133	199	*	108	106	172	
HDPE 90 2	12.2	143	13450	210	90	131	133	199	*	108	106	172	
HDPE 90 2	13.6	129	14100	198	90	131	133	–	*	108	106	172	
HDPE 90 2	15.8	111	14350	173	90	131	133	–	65	108	106	–	
HDPE 90 2	17.6	99	15350	166	90	131	133	–	65	108	106	–	
HDPE 90 2	20.1	87	15400	146	90	131	133	–	65	108	106	–	
HDPE 90 2	22.4	78	16550	141	90	–	–	–	65	108	106	–	
HDPE 90 3	25.4	69	14600	112	50	72	86	–	*	54	68	–	
HDPE 90 3	28.3	62	15150	104	50	72	86	–	*	54	68	–	
HDPE 90 3	32.9	53	15600	92	50	72	86	–	*	54	68	–	
HDPE 90 3	36.6	48	16550	88	50	72	–	–	34	54	68	–	
HDPE 90 3	40.0	44	15100	73	50	–	–	–	34	54	68	–	
HDPE 90 3	44.6	39	16750	73	50	–	–	–	34	54	–	–	
HDPE 90 3	51.8	34	16300	61	50	–	–	–	34	54	–	–	
HDPE 90 3	57.7	30	16750	57	–	–	–	–	34	–	–	–	
HDPE 90 3	65.8	26.6	17650	52	–	–	–	–	34	–	–	–	
HDPE 90 3	73.3	23.9	16750	44	–	–	–	–	34	–	–	–	
HDPE 90 3	77.8	22.5	16150	40	–	–	–	–	34	–	–	–	
HDPE 90 3	86.6	20.2	16750	38	–	–	–	–	34	–	–	–	
HDPE 90 3	98.9	17.7	17650	35	–	–	–	–	–	–	–	–	
HDPE 90 3	110.1	15.9	16750	30	–	–	–	–	–	–	–	–	


n ₁ = 1400 min ⁻¹													
	i	n ₂ Mn ₂ Pn ₁											
		T _{amb} = 20°C											
		T _{amb} = 40°C											
		n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW3} [kW]	P _{TMCRW5} [kW]	
HDPE 90 2	7.9	177	12500	241	*	134	136	202	*	108	110	176	
HDPE 90 2	8.8	159	13100	227	*	134	136	202	*	108	110	176	
HDPE 90 2	10.1	139	13550	206	89	134	136	202	*	108	110	176	
HDPE 90 2	11.2	125	14200	194	89	134	136	–	*	108	110	176	
HDPE 90 2	12.2	115	14350	179	89	134	136	–	*	108	110	176	
HDPE 90 2	13.6	103	15100	169	89	134	136	–	*	108	110	–	
HDPE 90 2	15.8	89	15350	148	89	134	136	–	67	108	110	–	
HDPE 90 2	17.6	80	16400	142	89	–	–	–	67	108	110	–	
HDPE 90 2	20.1	70	16450	125	89	–	–	–	67	108	110	–	
HDPE 90 2	22.4	63	16750	114	89	–	–	–	67	–	–	–	
HDPE 90 3	25.4	55	15600	96	54	76	90	–	36	58	72	–	
HDPE 90 3	28.3	49	16200	89	54	76	–	–	36	58	72	–	
HDPE 90 3	32.9	43	16700	79	54	76	–	–	36	58	72	–	
HDPE 90 3	36.6	38	16750	71	54	–	–	–	36	58	–	–	
HDPE 90 3	40.0	35	16150	63	54	–	–	–	36	58	–	–	
HDPE 90 3	44.6	31	16750	59	–	–	–	–	36	–	–	–	
HDPE 90 3	51.8	27.0	17450	52	–	–	–	–	36	–	–	–	
HDPE 90 3	57.7	24.3	16750	45	–	–	–	–	36	–	–	–	
HDPE 90 3	65.8	21.3	17650	42	–	–	–	–	36	–	–	–	
HDPE 90 3	73.3	19.1	16750	36	–	–	–	–	–	–	–	–	
HDPE 90 3	77.8	18.0	17250	35	–	–	–	–	–	–	–	–	
HDPE 90 3	86.6	16.2	16750	30	–	–	–	–	–	–	–	–	
HDPE 90 3	98.9	14.2	17650	28	–	–	–	–	–	–	–	–	
HDPE 90 3	110.1	12.7	16750	24	–	–	–	–	–	–	–	–	

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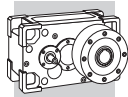


HDPE 90												
n ₁ = 1100 min ⁻¹												
T _{amb} = 20°C												
T _{amb} = 40°C												
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T	P _{TSR}	P _{TMCRW3}	P _{TMCRW5}	P _T	P _{TSR}	P _{TMCRW3}	P _{TMCRW5}
					[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDPE 90 2	7.9	139	13450	203	89	137	139	—	*	111	113	179
HDPE 90 2	8.8	125	14050	191	89	137	139	—	*	111	113	179
HDPE 90 2	10.1	109	14600	174	89	137	139	—	65	111	113	—
HDPE 90 2	11.2	98	15250	163	89	137	139	—	65	111	113	—
HDPE 90 2	12.2	90	15450	152	89	137	139	—	65	111	113	—
HDPE 90 2	13.6	81	16250	143	89	—	—	—	65	111	113	—
HDPE 90 2	15.8	70	16500	125	89	—	—	—	65	111	113	—
HDPE 90 2	17.6	63	16750	114	89	—	—	—	65	—	—	—
HDPE 90 2	20.1	55	17650	105	89	—	—	—	65	—	—	—
HDPE 90 2	22.4	49	16750	90	—	—	—	—	65	—	—	—
HDPE 90 3	25.4	43	16800	81	57	79	—	—	39	61	75	—
HDPE 90 3	28.3	39	16750	72	57	—	—	—	39	61	—	—
HDPE 90 3	32.9	33	17650	66	57	—	—	—	39	61	—	—
HDPE 90 3	36.6	30	16750	56	—	—	—	—	39	—	—	—
HDPE 90 3	40.0	27.5	17350	53	—	—	—	—	39	—	—	—
HDPE 90 3	44.6	24.7	16750	46	—	—	—	—	39	—	—	—
HDPE 90 3	51.8	21.2	17650	42	—	—	—	—	39	—	—	—
HDPE 90 3	57.7	19.1	16750	36	—	—	—	—	—	—	—	—
HDPE 90 3	65.8	16.7	17650	33	—	—	—	—	—	—	—	—
HDPE 90 3	73.3	15.0	16750	28	—	—	—	—	—	—	—	—
HDPE 90 3	77.8	14.1	17650	28	—	—	—	—	—	—	—	—
HDPE 90 3	86.6	12.7	16750	24	—	—	—	—	—	—	—	—
HDPE 90 3	98.9	11.1	17650	22	—	—	—	—	—	—	—	—
HDPE 90 3	110.1	10.0	16750	18.6	—	—	—	—	—	—	—	—

n ₁ = 900 min ⁻¹												
T _{amb} = 20°C												
T _{amb} = 40°C												
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T	P _{TSR}	P _{TMCRW3}	P _{TMCRW5}	P _T	P _{TSR}	P _{TMCRW3}	P _{TMCRW5}
					[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDPE 90 2	7.9	114	14000	173	91	139	141	—	*	112	114	—
HDPE 90 2	8.8	102	14950	166	91	139	141	—	*	112	114	—
HDPE 90 2	10.1	89	15500	151	91	139	141	—	66	112	114	—
HDPE 90 2	11.2	80	16200	142	91	—	—	—	66	112	114	—
HDPE 90 2	12.2	74	16400	132	91	—	—	—	66	112	114	—
HDPE 90 2	13.6	66	16750	121	91	—	—	—	66	—	—	—
HDPE 90 2	15.8	57	17000	106	91	—	—	—	66	—	—	—
HDPE 90 2	17.6	51	16750	93	—	—	—	—	66	—	—	—
HDPE 90 2	20.1	45	17650	86	—	—	—	—	66	—	—	—
HDPE 90 2	22.4	40	16750	73	—	—	—	—	66	—	—	—
HDPE 90 3	25.4	35	17650	70	60	—	—	—	41	63	—	—
HDPE 90 3	28.3	32	16750	59	—	—	—	—	41	—	—	—
HDPE 90 3	32.9	27.4	17650	54	—	—	—	—	41	—	—	—
HDPE 90 3	36.6	24.6	16750	46	—	—	—	—	—	—	—	—
HDPE 90 3	40.0	22.5	17650	44	—	—	—	—	—	—	—	—
HDPE 90 3	44.6	20.2	16750	38	—	—	—	—	—	—	—	—
HDPE 90 3	51.8	17.4	17650	34	—	—	—	—	—	—	—	—
HDPE 90 3	57.7	15.6	16750	29	—	—	—	—	—	—	—	—
HDPE 90 3	65.8	13.7	17650	27	—	—	—	—	—	—	—	—
HDPE 90 3	73.3	12.3	16750	23	—	—	—	—	—	—	—	—
HDPE 90 3	77.8	11.6	17650	23	—	—	—	—	—	—	—	—
HDPE 90 3	86.6	10.4	16750	19.4	—	—	—	—	—	—	—	—
HDPE 90 3	98.9	9.1	17650	17.9	—	—	—	—	—	—	—	—
HDPE 90 3	110.1	8.2	16750	15.2	—	—	—	—	—	—	—	—

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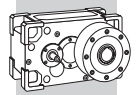
HDPE 100


n ₁ = 1750 min ⁻¹												
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	T _{amb} = 20°C				T _{amb} = 40°C			
					P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]
HDPE 100 2	7.4	236	18400	474	*	*	173	267	*	*	*	234
HDPE 100 2	8.2	213	20600	478	*	*	173	267	*	*	*	234
HDPE 100 2	9.1	192	19350	405	*	*	173	267	*	*	*	234
HDPE 100 2	10.1	173	21350	403	*	160	173	267	*	*	155	234
HDPE 100 2	11.3	156	20400	346	*	160	173	267	*	*	155	234
HDPE 100 2	12.5	140	21350	326	*	160	173	267	*	140	155	234
HDPE 100 2	14.2	124	21300	287	*	160	173	267	*	140	155	234
HDPE 100 2	15.7	111	21350	259	*	160	173	—	*	140	155	234
HDPE 100 2	18.0	97	22400	237	*	160	173	—	*	140	155	234
HDPE 100 2	20.0	88	21350	204	101	160	173	—	*	140	155	—
HDPE 100 2	21.8	80	20050	176	101	160	173	—	*	140	155	—
HDPE 100 3	22.8	77	20050	171	71	134	155	—	*	109	130	—
HDPE 100 3	25.3	69	21350	164	71	134	155	—	*	109	130	—
HDPE 100 3	28.1	62	21100	146	71	134	—	—	*	109	130	—
HDPE 100 3	31.3	56	21350	133	71	—	—	—	49	109	—	—
HDPE 100 3	35.4	49	22050	121	71	—	—	—	49	109	—	—
HDPE 100 3	39.3	44	21350	106	71	—	—	—	49	—	—	—
HDPE 100 3	45.0	39	23100	100	71	—	—	—	49	—	—	—
HDPE 100 3	50.0	35	21350	83	71	—	—	—	49	—	—	—
HDPE 100 3	55.5	32	24050	84	71	—	—	—	49	—	—	—
HDPE 100 3	61.7	28.4	21350	67	—	—	—	—	49	—	—	—
HDPE 100 3	69.9	25.0	24050	67	—	—	—	—	49	—	—	—
HDPE 100 3	77.7	22.5	21350	54	—	—	—	—	49	—	—	—
HDPE 100 3	88.9	19.7	24050	53	—	—	—	—	49	—	—	—
HDPE 100 3	98.8	17.7	21350	42	—	—	—	—	—	—	—	—
HDPE 100 3	107.6	16.3	20050	36	—	—	—	—	—	—	—	—


n ₁ = 1400 min ⁻¹												
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	T _{amb} = 20°C				T _{amb} = 40°C			
					P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]
HDPE 100 2	7.4	189	19650	405	*	158	186	280	*	*	153	247
HDPE 100 2	8.2	170	22000	408	*	158	186	280	*	*	153	247
HDPE 100 2	9.1	154	20650	346	*	158	186	280	*	*	153	247
HDPE 100 2	10.1	138	23100	349	*	158	186	280	*	137	153	247
HDPE 100 2	11.3	124	21800	296	*	158	186	280	*	137	153	247
HDPE 100 2	12.5	112	23100	282	*	158	186	—	*	137	153	247
HDPE 100 2	14.2	99	22800	246	*	158	186	—	*	137	153	—
HDPE 100 2	15.7	89	23100	224	100	158	186	—	*	137	153	—
HDPE 100 2	18.0	78	23950	203	100	158	186	—	*	137	153	—
HDPE 100 2	20.0	70	23100	176	100	158	—	—	72	137	153	—
HDPE 100 2	21.8	64	21700	152	100	—	—	—	72	137	—	—
HDPE 100 3	22.8	61	21450	147	76	139	—	—	*	114	135	—
HDPE 100 3	25.3	55	23100	142	76	—	—	—	*	114	—	—
HDPE 100 3	28.1	50	22600	125	76	—	—	—	51	114	—	—
HDPE 100 3	31.3	45	23100	115	76	—	—	—	51	—	—	—
HDPE 100 3	35.4	40	23600	104	76	—	—	—	51	—	—	—
HDPE 100 3	39.3	36	23100	91	76	—	—	—	51	—	—	—
HDPE 100 3	45.0	31	24700	85	76	—	—	—	51	—	—	—
HDPE 100 3	50.0	28.0	23100	72	—	—	—	—	51	—	—	—
HDPE 100 3	55.5	25.2	25650	72	—	—	—	—	51	—	—	—
HDPE 100 3	61.7	22.7	23100	58	—	—	—	—	51	—	—	—
HDPE 100 3	69.9	20.0	25650	57	—	—	—	—	51	—	—	—
HDPE 100 3	77.7	18.0	23100	46	—	—	—	—	—	—	—	—
HDPE 100 3	88.9	15.8	25650	45	—	—	—	—	—	—	—	—
HDPE 100 3	98.8	14.2	23100	36	—	—	—	—	—	—	—	—
HDPE 100 3	107.6	13.0	21700	31	—	—	—	—	—	—	—	—

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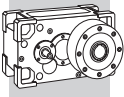


HDPE 100													
n ₁ = 1100 min ⁻¹													
T _{amb} = 20°C													
T _{amb} = 40°C													
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T	P _{TSR}	P _{TMCRW5}	P _{TMCRW9}	P _T	P _{TSR}	P _{TMCRW5}	P _{TMCRW9}	
					[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	
HDPE 100 2	7.4	149	21150	343	*	170	198	292	*	137	165	259	
HDPE 100 2	8.2	134	23100	337	*	170	198	292	*	137	165	259	
HDPE 100 2	9.1	121	22200	292	*	170	198	292	*	137	165	259	
HDPE 100 2	10.1	109	23100	274	*	170	198	–	*	137	165	–	
HDPE 100 2	11.3	98	23450	250	*	170	198	–	*	137	165	–	
HDPE 100 2	12.5	88	23100	222	99	170	198	–	*	137	165	–	
HDPE 100 2	14.2	78	23750	201	99	170	198	–	*	137	165	–	
HDPE 100 2	15.7	70	23100	176	99	–	–	–	72	137	–	–	
HDPE 100 2	18.0	61	23950	160	99	–	–	–	72	137	–	–	
HDPE 100 2	20.0	55	23100	139	99	–	–	–	72	–	–	–	
HDPE 100 2	21.8	50	21700	119	99	–	–	–	72	–	–	–	
HDPE 100 3	22.8	48	23050	124	80	–	–	–	55	118	–	–	
HDPE 100 3	25.3	43	23100	112	80	–	–	–	55	–	–	–	
HDPE 100 3	28.1	39	24250	106	80	–	–	–	55	–	–	–	
HDPE 100 3	31.3	35	23100	90	80	–	–	–	55	–	–	–	
HDPE 100 3	35.4	31	25350	88	89	–	–	–	55	–	–	–	
HDPE 100 3	39.3	28.0	23100	72	–	–	–	–	55	–	–	–	
HDPE 100 3	45.0	24.4	24700	67	–	–	–	–	55	–	–	–	
HDPE 100 3	50.0	22.0	23100	57	–	–	–	–	–	–	–	–	
HDPE 100 3	55.5	19.8	25650	57	–	–	–	–	–	–	–	–	
HDPE 100 3	61.7	17.8	23100	46	–	–	–	–	–	–	–	–	
HDPE 100 3	69.9	15.7	25650	45	–	–	–	–	–	–	–	–	
HDPE 100 3	77.7	14.2	23100	36	–	–	–	–	–	–	–	–	
HDPE 100 3	88.9	12.4	25650	35	–	–	–	–	–	–	–	–	
HDPE 100 3	98.8	11.1	23100	29	–	–	–	–	–	–	–	–	
HDPE 100 3	107.6	10.2	21700	25	–	–	–	–	–	–	–	–	


n ₁ = 900 min ⁻¹													
T _{amb} = 20°C													
T _{amb} = 40°C													
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T	P _{TSR}	P _{TMCRW5}	P _{TMCRW9}	P _T	P _{TSR}	P _{TMCRW5}	P _{TMCRW9}	
					[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	
HDPE 100 2	7.4	122	22450	298	*	178	206	–	*	145	173	267	
HDPE 100 2	8.2	109	23100	276	*	178	206	–	*	145	173	–	
HDPE 100 2	9.1	99	23150	249	*	178	206	–	*	145	173	–	
HDPE 100 2	10.1	89	23100	224	98	178	–	–	*	145	173	–	
HDPE 100 2	11.3	80	23450	205	98	178	–	–	*	145	173	–	
HDPE 100 2	12.5	72	23100	181	98	–	–	–	71	145	–	–	
HDPE 100 2	14.2	64	23750	165	98	–	–	–	71	145	–	–	
HDPE 100 2	15.7	57	23100	144	98	–	–	–	71	–	–	–	
HDPE 100 2	18.0	50	23950	131	98	–	–	–	71	–	–	–	
HDPE 100 2	20.0	45	23100	113	98	–	–	–	71	–	–	–	
HDPE 100 2	21.8	41	21700	98	–	–	–	–	71	–	–	–	
HDPE 100 3	22.8	40	24500	108	83	–	–	–	58	–	–	–	
HDPE 100 3	25.3	36	23100	91	83	–	–	–	58	–	–	–	
HDPE 100 3	28.1	32	25650	91	83	–	–	–	58	–	–	–	
HDPE 100 3	31.3	28.8	23100	74	–	–	–	–	58	–	–	–	
HDPE 100 3	35.4	25.4	25650	73	–	–	–	–	58	–	–	–	
HDPE 100 3	39.3	22.9	23100	59	–	–	–	–	–	–	–	–	
HDPE 100 3	45.0	20.0	25650	57	–	–	–	–	–	–	–	–	
HDPE 100 3	50.0	18.0	23100	46	–	–	–	–	–	–	–	–	
HDPE 100 3	55.5	16.2	25650	46	–	–	–	–	–	–	–	–	
HDPE 100 3	61.7	14.6	23100	37	–	–	–	–	–	–	–	–	
HDPE 100 3	69.9	12.9	25650	37	–	–	–	–	–	–	–	–	
HDPE 100 3	77.7	11.6	23100	30	–	–	–	–	–	–	–	–	
HDPE 100 3	88.9	10.1	25650	29	–	–	–	–	–	–	–	–	
HDPE 100 3	98.8	9.1	23100	23	–	–	–	–	–	–	–	–	
HDPE 100 3	107.6	8.4	21700	20	–	–	–	–	–	–	–	–	

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HDPE 110

		$n_1 = 1750 \text{ min}^{-1}$										
		$T_{amb} = 20^\circ\text{C}$							$T_{amb} = 40^\circ\text{C}$			
	i	n_2 [rpm]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	P_T [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDPE 110 2	8.1	216	21200	500	*	*	*	263	*	*	*	230
HDPE 110 2	9.0	195	22450	478	*	*	*	263	*	*	*	230
HDPE 110 2	9.9	176	22300	428	*	*	185	263	*	*	*	230
HDPE 110 2	11.0	159	24000	416	*	*	185	263	*	*	*	230
HDPE 110 2	12.3	142	23500	365	*	171	185	263	*	*	165	230
HDPE 110 2	13.6	129	25300	355	*	171	185	263	*	*	165	230
HDPE 110 2	15.5	113	24550	303	*	171	185	263	*	147	165	230
HDPE 110 2	17.1	102	26400	294	*	171	185	—	*	147	165	230
HDPE 110 2	19.7	89	25350	246	99	171	185	—	*	147	165	230
HDPE 110 2	21.8	80	26400	231	99	171	185	—	*	147	165	230
HDPE 110 2	25.0	70	23650	180	99	171	—	—	*	147	165	—
HDPE 110 3	24.9	70	23000	180	*	133	154	—	*	108	129	—
HDPE 110 3	27.6	64	24000	170	70	133	154	—	*	108	129	—
HDPE 110 3	30.7	57	24650	156	70	133	—	—	*	108	129	—
HDPE 110 3	34.0	51	25750	147	70	133	—	—	*	108	129	—
HDPE 110 3	38.7	45	25700	129	70	—	—	—	50	108	129	—
HDPE 110 3	42.8	41	26400	120	70	—	—	—	50	108	—	—
HDPE 110 3	49.2	36	26450	105	70	—	—	—	50	—	—	—
HDPE 110 3	54.5	32	26400	94	70	—	—	—	50	—	—	—
HDPE 110 3	60.7	28.8	27950	90	70	—	—	—	50	—	—	—
HDPE 110 3	67.2	26.0	26400	76	70	—	—	—	50	—	—	—
HDPE 110 3	76.4	22.9	28300	72	70	—	—	—	50	—	—	—
HDPE 110 3	84.6	20.7	26400	61	—	—	—	—	50	—	—	—
HDPE 110 3	97.1	18.0	26450	53	—	—	—	—	50	—	—	—
HDPE 110 3	107.6	16.3	26400	48	—	—	—	—	—	—	—	—
HDPE 110 3	123.4	14.2	23650	37	—	—	—	—	—	—	—	—

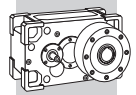
		$n_1 = 1400 \text{ min}^{-1}$										
		$T_{amb} = 20^\circ\text{C}$							$T_{amb} = 40^\circ\text{C}$			
HDPE 110 2	8.1	173	22650	428	*	*	183	277	*	*	*	244
HDPE 110 2	9.0	156	24000	409	*	*	183	277	*	*	*	244
HDPE 110 2	9.9	141	23850	366	*	168	183	277	*	*	163	244
HDPE 110 2	11.0	127	25700	356	*	168	183	277	*	*	163	244
HDPE 110 2	12.3	114	24750	307	*	168	183	277	*	146	163	244
HDPE 110 2	13.6	103	26100	293	*	168	183	277	*	146	163	244
HDPE 110 2	15.5	90	25050	247	98	168	183	—	*	146	163	244
HDPE 110 2	17.1	82	26450	236	98	168	183	—	*	146	163	—
HDPE 110 2	19.7	71	25350	197	98	168	183	—	71	146	163	—
HDPE 110 2	21.8	64	26700	187	98	168	183	—	71	146	163	—
HDPE 110 2	25.0	56	25900	158	98	—	—	—	71	—	—	—
HDPE 110 3	24.9	56	24600	154	75	138	—	—	*	113	134	—
HDPE 110 3	27.6	51	25650	145	75	138	—	—	*	113	134	—
HDPE 110 3	30.7	46	26350	134	75	—	—	—	*	113	—	—
HDPE 110 3	34.0	41	27550	126	75	—	—	—	52	113	—	—
HDPE 110 3	38.7	36	27500	111	75	—	—	—	52	—	—	—
HDPE 110 3	42.8	33	28900	105	75	—	—	—	52	—	—	—
HDPE 110 3	49.2	28.5	28525	90	75	—	—	—	52	—	—	—
HDPE 110 3	54.5	25.7	28900	83	75	—	—	—	52	—	—	—
HDPE 110 3	60.7	23.1	27950	72	—	—	—	—	52	—	—	—
HDPE 110 3	67.2	20.8	28900	67	—	—	—	—	52	—	—	—
HDPE 110 3	76.4	18.3	28300	58	—	—	—	—	52	—	—	—
HDPE 110 3	84.6	16.5	28900	53	—	—	—	—	—	—	—	—
HDPE 110 3	97.1	14.4	28525	46	—	—	—	—	—	—	—	—
HDPE 110 3	107.6	13.0	28900	42	—	—	—	—	—	—	—	—
HDPE 110 3	123.4	11.3	25900	33	—	—	—	—	—	—	—	—



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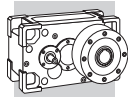
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HDPE 110													
		n ₁ = 1100 min ⁻¹											
		T _{amb} = 20°C							T _{amb} = 40°C				
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	
HDPE 110 2	8.1	136	24050	357	*	168	196	290	*	*	163	257	
HDPE 110 2	9.0	123	25400	340	*	168	196	290	*	*	163	257	
HDPE 110 2	9.9	111	24450	295	*	168	196	—	*	145	163	257	
HDPE 110 2	11.0	100	25800	281	*	168	196	—	*	145	163	257	
HDPE 110 2	12.3	89	24750	241	98	168	196	—	*	145	163	—	
HDPE 110 2	13.6	81	26100	230	98	168	196	—	*	145	163	—	
HDPE 110 2	15.5	71	25050	194	98	168	—	—	*	145	163	—	
HDPE 110 2	17.1	64	26450	185	98	168	—	—	*	145	163	—	
HDPE 110 2	19.7	56	25350	155	98	—	—	—	75	145	—	—	
HDPE 110 2	21.8	50	26700	147	98	—	—	—	75	145	—	—	
HDPE 110 2	25.0	44	25900	124	98	—	—	—	75	—	—	—	
HDPE 110 3	24.9	44	26450	130	79	—	—	—	54	117	—	—	
HDPE 110 3	27.6	40	27600	123	79	—	—	—	54	117	—	—	
HDPE 110 3	30.7	36	27950	111	79	—	—	—	54	—	—	—	
HDPE 110 3	34.0	32	27550	99	79	—	—	—	54	—	—	—	
HDPE 110 3	38.7	28.4	28300	90	79	—	—	—	54	—	—	—	
HDPE 110 3	42.8	25.7	28900	83	—	—	—	—	54	—	—	—	
HDPE 110 3	49.2	22.4	28500	71	—	—	—	—	54	—	—	—	
HDPE 110 3	54.5	20.2	28900	65	—	—	—	—	54	—	—	—	
HDPE 110 3	60.7	18.1	27950	56	—	—	—	—	54	—	—	—	
HDPE 110 3	67.2	16.4	28900	53	—	—	—	—	—	—	—	—	
HDPE 110 3	76.4	14.4	28300	45	—	—	—	—	—	—	—	—	
HDPE 110 3	84.6	13.0	28900	42	—	—	—	—	—	—	—	—	
HDPE 110 3	97.1	11.3	28500	36	—	—	—	—	—	—	—	—	
HDPE 110 3	107.6	10.2	28900	33	—	—	—	—	—	—	—	—	
HDPE 110 3	123.4	8.9	25900	26	—	—	—	—	—	—	—	—	
		n ₁ = 900 min ⁻¹											
		T _{amb} = 20°C							T _{amb} = 40°C				
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	
HDPE 110 2	8.1	111	24050	292	*	176	204	—	*	143	171	265	
HDPE 110 2	9.0	100	25400	278	*	176	204	—	*	143	171	265	
HDPE 110 2	9.9	90	24450	241	96	176	204	—	*	143	171	—	
HDPE 110 2	11.0	82	25800	230	96	176	204	—	*	143	171	—	
HDPE 110 2	12.3	73	24750	198	96	176	—	—	*	143	171	—	
HDPE 110 2	13.6	66	26100	188	96	176	—	—	*	143	171	—	
HDPE 110 2	15.5	58	25050	159	96	—	—	—	75	143	—	—	
HDPE 110 2	17.1	53	26450	151	96	—	—	—	75	143	—	—	
HDPE 110 2	19.7	46	25350	126	96	—	—	—	75	—	—	—	
HDPE 110 2	21.8	41	26700	120	96	—	—	—	75	—	—	—	
HDPE 110 2	25.0	36	25900	102	—	—	—	—	75	—	—	—	
HDPE 110 3	24.9	36	27600	111	82	—	—	—	57	—	—	—	
HDPE 110 3	27.6	33	28900	105	82	—	—	—	57	—	—	—	
HDPE 110 3	30.7	29.3	27950	91	82	—	—	—	57	—	—	—	
HDPE 110 3	34.0	26.4	28900	85	—	—	—	—	57	—	—	—	
HDPE 110 3	38.7	23.3	28300	73	—	—	—	—	57	—	—	—	
HDPE 110 3	42.8	21.0	28900	68	—	—	—	—	57	—	—	—	
HDPE 110 3	49.2	18.3	28500	58	—	—	—	—	—	—	—	—	
HDPE 110 3	54.5	16.5	28900	53	—	—	—	—	—	—	—	—	
HDPE 110 3	60.7	14.8	27950	46	—	—	—	—	—	—	—	—	
HDPE 110 3	67.2	13.4	28900	43	—	—	—	—	—	—	—	—	
HDPE 110 3	76.4	11.8	28300	37	—	—	—	—	—	—	—	—	
HDPE 110 3	84.6	10.6	28900	34	—	—	—	—	—	—	—	—	
HDPE 110 3	97.1	9.3	28500	29	—	—	—	—	—	—	—	—	
HDPE 110 3	107.6	8.4	28900	27	—	—	—	—	—	—	—	—	
HDPE 110 3	123.4	7.3	25900	21	—	—	—	—	—	—	—	—	

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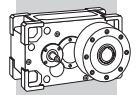
HDPE 120



n ₁ = 1750 min ⁻¹												
	i				T _{amb} = 20°C				T _{amb} = 40°C			
		n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]
HDPE 120 2	7.9	221	28250	682	*	*	*	*	*	*	*	*
HDPE 120 2	8.6	203	28750	637	*	*	*	*	*	*	*	*
HDPE 120 2	10.3	170	30600	567	*	*	*	286	*	*	*	244
HDPE 120 2	11.2	156	31200	531	*	*	*	286	*	*	*	244
HDPE 120 2	13.0	134	31800	466	*	184	212	286	*	*	*	244
HDPE 120 2	14.2	123	32450	437	*	184	212	286	*	*	*	244
HDPE 120 2	16.0	110	33400	399	*	184	212	286	*	*	184	244
HDPE 120 2	17.4	101	34150	375	*	184	212	286	*	156	184	244
HDPE 120 2	20.6	85	35350	327	120	184	212	286	*	156	184	244
HDPE 120 2	22.5	78	35000	297	120	184	212	286	*	156	184	244
HDPE 120 2	25.4	69	31750	239	120	184	212	—	*	156	184	—
HDPE 120 3	25.8	68	31150	235	*	153	174	—	*	121	142	210
HDPE 120 3	28.0	62	31800	221	90	153	174	—	*	121	142	210
HDPE 120 3	32.5	54	32600	195	90	153	174	—	*	121	142	—
HDPE 120 3	35.4	49	33100	182	90	153	174	—	*	121	142	—
HDPE 120 3	39.9	44	34250	167	90	153	—	—	65	121	142	—
HDPE 120 3	43.5	40	34750	156	90	153	—	—	65	121	142	—
HDPE 120 3	51.6	34	35350	133	90	—	—	—	65	121	—	—
HDPE 120 3	56.1	31	35000	121	90	—	—	—	65	121	—	—
HDPE 120 3	64.3	27.2	35350	107	90	—	—	—	65	—	—	—
HDPE 120 3	70.0	25.0	35000	97	90	—	—	—	65	—	—	—
HDPE 120 3	78.9	22.2	35350	87	—	—	—	—	65	—	—	—
HDPE 120 3	85.9	20.4	35000	79	—	—	—	—	65	—	—	—
HDPE 120 3	101.8	17.2	35350	68	—	—	—	—	65	—	—	—
HDPE 120 3	110.9	15.8	35000	61	—	—	—	—	—	—	—	—
HDPE 120 3	125.2	14.0	31750	49	—	—	—	—	—	—	—	—

n ₁ = 1400 min ⁻¹												
	i				T _{amb} = 20°C				T _{amb} = 40°C			
		n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]
HDPE 120 2	7.9	177	30200	583	*	*	*	*	*	*	*	*
HDPE 120 2	8.6	163	30750	545	*	*	*	*	*	*	*	*
HDPE 120 2	10.3	136	32750	485	*	*	208	292	*	*	*	260
HDPE 120 2	11.2	125	33350	454	*	*	208	292	*	*	*	260
HDPE 120 2	13.0	108	34000	399	*	195	208	292	*	154	182	260
HDPE 120 2	14.2	99	34700	374	*	195	208	292	*	154	182	260
HDPE 120 2	16.0	88	35750	342	*	195	208	292	*	154	182	260
HDPE 120 2	17.4	80	36500	320	*	195	208	292	*	154	182	260
HDPE 120 2	20.6	68	36700	272	127	195	208	—	85	154	182	260
HDPE 120 2	22.5	62	37200	253	127	195	208	—	85	154	182	—
HDPE 120 2	25.4	55	34300	206	127	—	—	—	85	154	—	—
HDPE 120 3	25.8	54	33300	201	96	159	180	—	*	127	148	—
HDPE 120 3	28.0	50	34000	189	96	159	180	—	*	127	148	—
HDPE 120 3	32.5	43	34850	167	96	159	—	—	67	127	148	—
HDPE 120 3	35.4	40	35400	156	96	—	—	—	67	127	148	—
HDPE 120 3	39.9	35	36600	143	96	—	—	—	67	127	—	—
HDPE 120 3	43.5	32	37150	133	96	—	—	—	67	127	—	—
HDPE 120 3	51.6	27.2	37500	113	96	—	—	—	67	—	—	—
HDPE 120 3	56.1	24.9	37200	103	96	—	—	—	67	—	—	—
HDPE 120 3	64.3	21.8	37500	91	—	—	—	—	67	—	—	—
HDPE 120 3	70.0	20.0	37200	83	—	—	—	—	67	—	—	—
HDPE 120 3	78.9	17.7	37500	74	—	—	—	—	67	—	—	—
HDPE 120 3	85.9	16.3	37200	67	—	—	—	—	—	—	—	—
HDPE 120 3	101.8	13.7	37500	57	—	—	—	—	—	—	—	—
HDPE 120 3	110.9	12.6	37200	52	—	—	—	—	—	—	—	—
HDPE 120 3	125.2	11.2	34300	43	—	—	—	—	—	—	—	—

* BONFIGLIOLI
TECHNICAL SERVICE

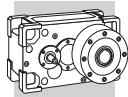
— Verifica termica non necessaria / Thermal verification not necessary / Wärmeprüfung nicht erforderlich





HDPE 120													
		n ₁ = 1100 min ⁻¹											
						T _{amb} = 20°C				T _{amb} = 40°C			
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	
HDPE 120 2	7.9	139	32450	492	*	*	208	302	*	*	*	260	
HDPE 120 2	8.6	128	33050	460	*	*	208	302	*	*	*	260	
HDPE 120 2	10.3	107	35200	410	*	194	208	302	*	152	180	260	
HDPE 120 2	11.2	98	35850	383	*	194	208	302	*	152	180	260	
HDPE 120 2	13.0	85	36000	332	118	194	208	302	*	152	180	260	
HDPE 120 2	14.2	78	37200	315	118	194	208	-	*	152	180	260	
HDPE 120 2	16.0	69	36350	273	118	194	208	-	*	152	180	260	
HDPE 120 2	17.4	63	37200	256	118	194	208	-	*	152	180	-	
HDPE 120 2	20.6	53	36700	213	118	194	-	-	92	152	180	-	
HDPE 120 2	22.5	49	37200	199	118	-	-	-	92	152	180	-	
HDPE 120 2	25.4	43	34300	162	118	-	-	-	92	152	-	-	
HDPE 120 3	25.8	43	35800	170	101	164	-	-	69	132	153	-	
HDPE 120 3	28.0	39	36550	159	101	-	-	-	69	132	-	-	
HDPE 120 3	32.5	34	37500	141	101	-	-	-	69	-	-	-	
HDPE 120 3	35.4	31	37200	128	101	-	-	-	69	-	-	-	
HDPE 120 3	39.9	27.5	37500	115	101	-	-	-	69	-	-	-	
HDPE 120 3	43.5	25.3	37200	105	-	-	-	-	69	-	-	-	
HDPE 120 3	51.6	21.3	37500	89	-	-	-	-	69	-	-	-	
HDPE 120 3	56.1	19.6	37200	81	-	-	-	-	69	-	-	-	
HDPE 120 3	64.3	17.1	37500	71	-	-	-	-	-	-	-	-	
HDPE 120 3	70.0	15.7	37200	65	-	-	-	-	-	-	-	-	
HDPE 120 3	78.9	13.9	37500	58	-	-	-	-	-	-	-	-	
HDPE 120 3	85.9	12.8	37200	53	-	-	-	-	-	-	-	-	
HDPE 120 3	101.8	10.8	37500	45	-	-	-	-	-	-	-	-	
HDPE 120 3	110.9	9.9	37200	41	-	-	-	-	-	-	-	-	
HDPE 120 3	125.2	8.8	34300	34	-	-	-	-	-	-	-	-	
		n ₁ = 900 min ⁻¹											
						T _{amb} = 20°C				T _{amb} = 40°C			
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	
HDPE 120 2	7.9	114	34450	428	*	192	220	314	*	*	178	272	
HDPE 120 2	8.6	105	35100	400	*	192	220	314	*	*	178	272	
HDPE 120 2	10.3	87	35550	339	*	192	220	314	*	162	178	272	
HDPE 120 2	11.2	80	37100	324	*	192	220	-	*	162	178	272	
HDPE 120 2	13.0	69	36000	271	126	192	220	-	*	162	178	-	
HDPE 120 2	14.2	64	37200	258	126	192	220	-	*	162	178	-	
HDPE 120 2	16.0	56	36350	223	126	192	-	-	91	162	178	-	
HDPE 120 2	17.4	52	37200	210	126	192	-	-	91	162	-	-	
HDPE 120 2	20.6	44	36700	175	126	-	-	-	91	162	-	-	
HDPE 120 2	22.5	40	37200	163	126	-	-	-	91	-	-	-	
HDPE 120 2	25.4	35	34300	133	-	-	-	-	91	-	-	-	
HDPE 120 3	25.8	35	36450	142	105	-	-	-	73	136	-	-	
HDPE 120 3	28.0	32	37200	133	105	-	-	-	73	-	-	-	
HDPE 120 3	32.5	27.7	37500	115	105	-	-	-	73	-	-	-	
HDPE 120 3	35.4	25.4	37200	105	-	-	-	-	73	-	-	-	
HDPE 120 3	39.9	22.5	37500	94	-	-	-	-	73	-	-	-	
HDPE 120 3	43.5	20.7	37200	86	-	-	-	-	73	-	-	-	
HDPE 120 3	51.6	17.5	37500	73	-	-	-	-	-	-	-	-	
HDPE 120 3	56.1	16.0	37200	66	-	-	-	-	-	-	-	-	
HDPE 120 3	64.3	14.0	37500	58	-	-	-	-	-	-	-	-	
HDPE 120 3	70.0	12.9	37200	53	-	-	-	-	-	-	-	-	
HDPE 120 3	78.9	11.4	37500	48	-	-	-	-	-	-	-	-	
HDPE 120 3	85.9	10.5	37200	43	-	-	-	-	-	-	-	-	
HDPE 120 3	101.8	8.8	37500	37	-	-	-	-	-	-	-	-	
HDPE 120 3	110.9	8.1	37200	34	-	-	-	-	-	-	-	-	
HDPE 120 3	125.2	7.2	34300	27	-	-	-	-	-	-	-	-	

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— Verifica termica non necessaria / Thermal verification not necessary / Wärmeprüfung nicht erforderlich

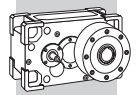




HDPE 130

n ₁ = 1750 min ⁻¹														
	i				T _{amb} = 20°C					T _{amb} = 40°C				
		n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]
HDPE 130 2	7.3	241	41500	1090	*	*	*	*	444	*	*	*	*	*
HDPE 130 2	7.9	221	43950	1058	*	*	*	*	444	*	*	*	*	*
HDPE 130 2	8.6	203	43850	971	*	*	*	*	444	*	*	*	*	*
HDPE 130 2	9.4	186	46350	941	*	*	*	*	444	*	*	*	*	417
HDPE 130 2	11.3	155	48550	819	*	*	*	*	444	*	*	*	*	417
HDPE 130 2	12.3	142	49650	768	*	*	*	352	444	*	*	*	289	417
HDPE 130 2	14.1	124	49550	669	*	*	*	352	444	*	*	*	289	417
HDPE 130 2	15.4	113	50850	629	*	271	280	352	444	*	*	*	289	417
HDPE 130 2	17.4	100	53150	582	*	271	280	352	444	*	*	*	289	417
HDPE 130 2	19.0	92	56550	567	*	271	280	352	444	*	224	233	289	417
HDPE 130 2	21.7	81	57400	506	*	271	280	352	444	*	224	233	289	417
HDPE 130 3	21.8	80	56550	505	*	230	212	280	396	*	181	163	231	347
HDPE 130 3	23.8	74	56900	466	*	230	212	280	396	*	181	163	231	347
HDPE 130 3	28.6	61	59300	404	*	230	212	280	396	*	181	163	231	347
HDPE 130 3	31.2	56	56900	355	135	230	212	280	—	*	181	163	231	347
HDPE 130 3	35.7	49	56400	307	135	230	212	280	—	*	181	163	231	—
HDPE 130 3	39.0	45	56900	284	135	230	212	280	—	*	181	163	231	—
HDPE 130 3	44.1	40	58650	259	135	230	212	—	—	*	181	163	231	—
HDPE 130 3	48.1	36	56900	230	135	230	212	—	—	96	181	163	—	—
HDPE 130 3	56.5	31	59300	204	135	—	—	—	—	96	181	163	—	—
HDPE 130 3	61.7	28.4	56900	180	135	—	—	—	—	96	—	163	—	—
HDPE 130 3	70.7	24.8	59300	163	135	—	—	—	—	96	—	163	—	—
HDPE 130 3	77.1	22.7	56900	144	135	—	—	—	—	96	—	—	—	—
HDPE 130 3	87.2	20.1	58650	131	—	—	—	—	—	96	—	—	—	—
HDPE 130 3	95.1	18.4	56900	116	—	—	—	—	—	96	—	—	—	—
HDPE 130 3	108.3	16.2	53600	96	—	—	—	—	—	96	—	—	—	—
n ₁ = 1400 min ⁻¹														
	i				T _{amb} = 20°C					T _{amb} = 40°C				
		n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]
HDPE 130 2	7.3	193	44350	932	*	*	*	*	476	*	*	*	*	413
HDPE 130 2	7.9	177	47000	905	*	*	*	*	476	*	*	*	*	413
HDPE 130 2	8.6	163	46900	831	*	*	*	*	476	*	*	*	*	413
HDPE 130 2	9.4	149	49550	804	*	*	*	346	476	*	*	*	282	413
HDPE 130 2	11.3	124	51900	701	*	*	*	346	476	*	*	*	282	413
HDPE 130 2	12.3	113	53100	657	*	268	277	346	476	*	*	*	282	413
HDPE 130 2	14.1	99	53000	572	*	268	277	346	476	*	*	*	282	413
HDPE 130 2	15.4	91	54400	538	*	268	277	346	476	*	222	231	282	413
HDPE 130 2	17.4	80	56850	498	*	268	277	346	476	*	222	231	282	413
HDPE 130 2	19.0	74	60450	485	192	268	277	346	—	*	222	231	282	413
HDPE 130 2	21.7	65	57400	405	192	268	277	346	—	*	222	231	282	—
HDPE 130 3	21.8	64	60450	432	139	241	223	291	407	*	192	174	242	358
HDPE 130 3	23.8	59	60700	398	139	241	223	291	—	*	192	174	242	358
HDPE 130 3	28.6	49	63250	344	139	241	223	291	—	*	192	174	242	—
HDPE 130 3	31.2	45	60700	303	139	241	223	—	—	*	192	174	242	—
HDPE 130 3	35.7	39	60300	263	139	241	223	—	—	*	192	174	242	—
HDPE 130 3	39.0	36	60700	242	139	—	223	—	—	100	192	174	—	—
HDPE 130 3	44.1	32	63250	223	139	—	—	—	—	100	192	174	—	—
HDPE 130 3	48.1	29.1	60700	196	139	—	—	—	—	100	—	174	—	—
HDPE 130 3	56.5	24.8	63250	174	139	—	—	—	—	100	—	—	—	—
HDPE 130 3	61.7	22.7	60700	153	139	—	—	—	—	100	—	—	—	—
HDPE 130 3	70.7	19.8	63250	139	—	—	—	—	—	100	—	—	—	—
HDPE 130 3	77.1	18.1	60700	123	—	—	—	—	—	100	—	—	—	—
HDPE 130 3	87.2	16.1	63250	113	—	—	—	—	—	100	—	—	—	—
HDPE 130 3	95.1	14.7	60700	99	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	108.3	12.9	57400	83	—	—	—	—	—	—	—	—	—	—

*  BONFIGLIOLI TECHNICAL SERVICE

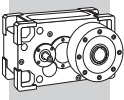
— Verifica termica non necessaria / Thermal verification not necessary / Wärmeprüfung nicht erforderlich




HDPE 130														
n ₁ = 1100 min ⁻¹														
T _{amb} = 20°C														
T _{amb} = 40°C														
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]
HDPE 130 2	7.3	151	47700	788	*	*	*	346	506	*	*	*	282	442
HDPE 130 2	7.9	139	50550	765	*	*	*	346	506	*	*	*	282	442
HDPE 130 2	8.6	128	50400	702	*	*	*	346	506	*	*	*	282	442
HDPE 130 2	9.4	117	53300	680	*	266	275	346	506	*	*	*	282	442
HDPE 130 2	11.3	97	55800	592	*	266	275	346	506	*	*	*	282	442
HDPE 130 2	12.3	89	57050	554	*	266	275	346	506	*	222	231	282	442
HDPE 130 2	14.1	78	57000	484	*	266	275	346	—	*	222	231	282	442
HDPE 130 2	15.4	71	58450	454	192	266	275	346	—	*	222	231	282	442
HDPE 130 2	17.4	63	61100	420	192	266	275	346	—	*	222	231	282	—
HDPE 130 2	19.0	58	60700	383	192	266	275	346	—	139	222	231	282	—
HDPE 130 2	21.7	51	57400	318	192	266	275	—	—	139	222	231	282	—
HDPE 130 3	21.8	50	60795	342	149	251	233	301	—	*	202	184	252	—
HDPE 130 3	23.8	46	60700	312	149	251	233	—	—	*	202	184	252	—
HDPE 130 3	28.6	38	63250	271	149	251	233	—	—	*	202	184	252	—
HDPE 130 3	31.2	35	60700	238	149	—	—	—	—	105	202	184	—	—
HDPE 130 3	35.7	31	63250	217	149	—	—	—	—	105	—	184	—	—
HDPE 130 3	39.0	28.2	60700	190	149	—	—	—	—	105	—	—	—	—
HDPE 130 3	44.1	24.9	63250	176	149	—	—	—	—	105	—	—	—	—
HDPE 130 3	48.1	22.9	60700	154	—	—	—	—	—	105	—	—	—	—
HDPE 130 3	56.5	19.5	63250	137	—	—	—	—	—	105	—	—	—	—
HDPE 130 3	61.7	17.8	60700	120	—	—	—	—	—	105	—	—	—	—
HDPE 130 3	70.7	15.6	63250	110	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	77.1	14.3	60700	96	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	87.2	12.6	63250	89	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	95.1	11.6	60700	78	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	108.3	10.2	57400	65	—	—	—	—	—	—	—	—	—	—
n ₁ = 900 min ⁻¹														
T _{amb} = 20°C														
T _{amb} = 40°C														
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]
HDPE 130 2	7.3	124	50650	684	*	262	271	365	525	*	*	*	302	462
HDPE 130 2	7.9	114	53700	665	*	262	271	365	525	*	*	*	302	462
HDPE 130 2	8.6	104	53550	610	*	262	271	365	525	*	*	*	302	462
HDPE 130 2	9.4	96	56600	591	*	262	271	365	525	*	217	226	302	462
HDPE 130 2	11.3	80	59250	514	*	262	271	365	—	*	217	226	302	462
HDPE 130 2	12.3	73	60600	482	190	262	271	365	—	*	217	226	302	—
HDPE 130 2	14.1	64	60500	420	190	262	271	365	—	*	217	226	302	—
HDPE 130 2	15.4	58	60700	386	190	262	271	—	—	137	217	226	302	—
HDPE 130 2	17.4	52	63250	356	190	262	271	—	—	137	217	226	302	—
HDPE 130 2	19.0	47	60700	313	190	262	271	—	—	137	217	226	—	—
HDPE 130 2	21.7	42	57400	260	190	—	—	—	—	137	217	226	—	—
HDPE 130 3	21.8	41	60795	279	156	258	240	—	—	107	209	191	259	—
HDPE 130 3	23.8	38	60700	256	156	—	—	—	—	107	209	191	—	—
HDPE 130 3	28.6	31	63250	221	156	—	—	—	—	107	—	191	—	—
HDPE 130 3	31.2	28.8	60700	195	156	—	—	—	—	107	—	—	—	—
HDPE 130 3	35.7	25.2	63250	177	156	—	—	—	—	107	—	—	—	—
HDPE 130 3	39.0	23.1	60700	156	—	—	—	—	—	107	—	—	—	—
HDPE 130 3	44.1	20.4	63250	144	—	—	—	—	—	107	—	—	—	—
HDPE 130 3	48.1	18.7	60700	126	—	—	—	—	—	107	—	—	—	—
HDPE 130 3	56.5	15.9	63250	112	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	61.7	14.6	60700	98	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	70.7	12.7	63250	90	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	77.1	11.7	60700	79	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	87.2	10.3	63250	73	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	95.1	9.5	60700	64	—	—	—	—	—	—	—	—	—	—
HDPE 130 3	108.3	8.3	57400	53	—	—	—	—	—	—	—	—	—	—


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HDPE 140

n ₁ = 1750 min ⁻¹														
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	T _{amb} = 20°C					T _{amb} = 40°C				
					P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]
HDPE 140 2	8.4	209	47750	1090	*	*	*	*	*	*	*	*	*	*
HDPE 140 2	9.3	189	52850	1090	*	*	*	*	*	*	*	*	*	*
HDPE 140 2	9.9	177	50450	971	*	*	*	*	481	*	*	*	*	*
HDPE 140 2	11.0	160	55850	972	*	*	*	*	481	*	*	*	*	*
HDPE 140 2	13.0	134	57250	839	*	*	*	*	481	*	*	*	*	449
HDPE 140 2	14.4	122	63350	839	*	*	*	*	481	*	*	*	*	449
HDPE 140 2	16.3	108	65100	764	*	*	*	378	481	*	*	*	312	449
HDPE 140 2	18.0	97	70150	744	*	*	*	378	481	*	*	*	312	449
HDPE 140 2	20.1	87	61200	582	*	293	302	378	481	*	227	236	312	449
HDPE 140 2	22.2	79	67700	582	*	293	302	378	481	*	227	236	312	449
HDPE 140 2	24.9	70	71700	549	*	293	302	378	481	*	227	236	312	449
HDPE 140 3	25.1	70	65100	506	*	234	216	284	400	*	*	*	233	349
HDPE 140 3	27.7	63	72050	506	*	234	216	284	400	*	*	*	233	349
HDPE 140 3	32.9	53	73350	434	*	234	216	284	400	*	191	173	233	349
HDPE 140 3	36.4	48	73500	393	*	234	216	284	—	*	191	173	233	349
HDPE 140 3	41.1	43	73050	346	145	234	216	284	—	*	191	173	233	—
HDPE 140 3	45.5	38	73500	314	145	234	216	284	—	*	191	173	233	—
HDPE 140 3	50.7	34	67550	259	145	234	216	—	—	*	191	173	233	—
HDPE 140 3	56.2	31	73500	255	145	234	216	—	—	*	191	173	233	—
HDPE 140 3	65.1	26.9	74850	224	145	—	216	—	—	115	191	173	—	—
HDPE 140 3	72.0	24.3	73500	199	145	—	—	—	—	115	191	173	—	—
HDPE 140 3	81.3	21.5	74100	177	145	—	—	—	—	115	—	173	—	—
HDPE 140 3	90.0	19.4	73500	159	145	—	—	—	—	115	—	—	—	—
HDPE 140 3	100.3	17.4	67550	131	—	—	—	—	—	115	—	—	—	—
HDPE 140 3	111.0	15.8	73500	129	—	—	—	—	—	115	—	—	—	—
HDPE 140 3	124.7	14.0	67200	105	—	—	—	—	—	—	—	—	—	—

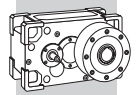
n ₁ = 1400 min ⁻¹														
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	T _{amb} = 20°C					T _{amb} = 40°C				
					P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]
HDPE 140 2	8.4	167	51100	933	*	*	*	*	*	*	*	*	*	*
HDPE 140 2	9.3	151	56500	932	*	*	*	*	*	*	*	*	*	*
HDPE 140 2	9.9	141	53950	831	*	*	*	*	508	*	*	*	*	442
HDPE 140 2	11.0	128	59700	831	*	*	*	*	508	*	*	*	*	442
HDPE 140 2	13.0	108	61200	718	*	*	*	375	508	*	*	*	309	442
HDPE 140 2	14.4	97	67750	718	*	*	*	375	508	*	*	*	309	442
HDPE 140 2	16.3	86	69600	653	*	290	299	375	508	*	*	*	309	442
HDPE 140 2	18.0	78	75000	636	*	290	299	375	508	*	*	*	309	442
HDPE 140 2	20.1	70	65400	498	*	290	299	375	508	*	239	248	309	442
HDPE 140 2	22.2	63	72400	498	*	290	299	375	508	*	239	248	309	442
HDPE 140 2	24.9	56	71700	439	198	290	299	375	—	*	239	248	309	442
HDPE 140 3	25.1	56	69600	432	*	245	227	295	411	*	194	176	244	360
HDPE 140 3	27.7	50	77050	433	*	245	227	295	411	*	194	176	244	360
HDPE 140 3	32.9	43	77100	365	149	245	227	295	—	*	194	176	244	—
HDPE 140 3	36.4	38	79150	338	149	245	227	295	—	*	194	176	244	—
HDPE 140 3	41.1	34	77100	292	149	245	227	—	—	103	194	176	244	—
HDPE 140 3	45.5	31	79150	271	149	245	227	—	—	103	194	176	244	—
HDPE 140 3	50.7	27.6	74700	229	149	—	—	—	—	103	194	176	—	—
HDPE 140 3	56.2	24.9	79150	220	149	—	—	—	—	103	194	176	—	—
HDPE 140 3	65.1	21.5	77100	185	149	—	—	—	—	103	—	176	—	—
HDPE 140 3	72.0	19.4	79150	171	149	—	—	—	—	103	—	—	—	—
HDPE 140 3	81.3	17.2	77100	148	—	—	—	—	—	103	—	—	—	—
HDPE 140 3	90.0	15.6	79150	137	—	—	—	—	—	103	—	—	—	—
HDPE 140 3	100.3	14.0	74700	116	—	—	—	—	—	103	—	—	—	—
HDPE 140 3	111.0	12.6	79150	111	—	—	—	—	—	—	—	—	—	—
HDPE 140 3	124.7	11.2	71700	90	—	—	—	—	—	—	—	—	—	—

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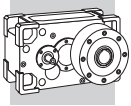
HDPE 140

		n ₁ = 1100 min ⁻¹														
							T _{amb} = 20°C					T _{amb} = 40°C				
	i	n ₂ [rpm]	Mn ₂ [Nm]	Pn ₁ [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]	P _T [kW]	P _{TSR} [kW]	P _{TMCRW5} [kW]	P _{TMCRW9} [kW]	P _{TMCRW21} [kW]		
HDPE 140 2	8.4	132	54900	788	*	*	*	348	508	*	*	*	*	442		
HDPE 140 2	9.3	119	60750	788	*	*	*	348	508	*	*	*	*	442		
HDPE 140 2	9.9	111	58000	702	*	*	*	348	508	*	*	*	306	442		
HDPE 140 2	11.0	100	64200	702	*	*	*	348	508	*	*	*	306	442		
HDPE 140 2	13.0	85	65800	606	*	290	299	348	508	*	*	*	306	442		
HDPE 140 2	14.4	76	72800	606	*	290	299	348	508	*	*	*	306	442		
HDPE 140 2	16.3	68	74850	552	197	290	299	348	508	*	239	248	306	442		
HDPE 140 2	18.0	61	79150	527	197	290	299	348	—	*	239	248	306	442		
HDPE 140 2	20.1	55	70350	421	197	290	299	348	—	143	239	248	306	—		
HDPE 140 2	22.2	50	77850	421	197	290	299	348	—	143	239	248	306	—		
HDPE 140 2	24.9	44	71700	345	197	290	299	—	—	143	239	248	306	—		
HDPE 140 3	25.1	44	70400	344	154	256	238	306	—	*	205	187	255	—		
HDPE 140 3	27.7	40	77950	344	154	256	238	306	—	*	205	187	255	—		
HDPE 140 3	32.9	33	77100	287	154	256	238	—	—	108	205	187	255	—		
HDPE 140 3	36.4	30	79150	266	154	—	238	—	—	108	205	187	—	—		
HDPE 140 3	41.1	26.7	77100	229	154	—	—	—	—	108	205	187	—	—		
HDPE 140 3	45.5	24.2	79150	213	154	—	—	—	—	108	—	187	—	—		
HDPE 140 3	50.7	21.7	74700	180	154	—	—	—	—	108	—	—	—	—		
HDPE 140 3	56.2	19.6	79150	173	154	—	—	—	—	108	—	—	—	—		
HDPE 140 3	65.1	16.9	77100	145	—	—	—	—	—	108	—	—	—	—		
HDPE 140 3	72.0	15.3	79150	135	—	—	—	—	—	108	—	—	—	—		
HDPE 140 3	81.3	13.5	77100	116	—	—	—	—	—	108	—	—	—	—		
HDPE 140 3	90.0	12.2	79150	108	—	—	—	—	—	—	—	—	—	—		
HDPE 140 3	100.3	11.0	74700	91	—	—	—	—	—	—	—	—	—	—		
HDPE 140 3	111.0	9.9	79150	87	—	—	—	—	—	—	—	—	—	—		
HDPE 140 3	124.7	8.8	71700	70	—	—	—	—	—	—	—	—	—	—		

		n ₁ = 900 min ⁻¹														
							T _{amb} = 20°C					T _{amb} = 40°C				
HDPE 140 2	8.4	108	58300	684	*	*	275	369	529	*	*	*	303	463		
HDPE 140 2	9.3	97	64550	685	*	*	275	369	529	*	*	*	303	463		
HDPE 140 2	9.9	91	61600	610	*	285	275	369	529	*	*	*	303	463		
HDPE 140 2	11.0	82	68200	610	*	285	275	369	529	*	*	*	303	463		
HDPE 140 2	13.0	69	69900	527	*	285	275	369	—	*	236	245	303	463		
HDPE 140 2	14.4	63	77350	527	*	285	275	369	—	*	236	245	303	463		
HDPE 140 2	16.3	55	77116	465	207	285	275	369	—	*	236	245	303	—		
HDPE 140 2	18.0	50	79150	431	207	285	275	369	—	*	236	245	303	—		
HDPE 140 2	20.1	45	74700	365	207	285	275	—	—	150	236	245	303	—		
HDPE 140 2	22.2	41	79150	350	207	285	275	—	—	150	236	245	303	—		
HDPE 140 2	24.9	36	71700	282	207	—	—	—	—	150	236	245	—	—		
HDPE 140 3	25.1	36	70400	281	161	263	245	—	—	110	212	194	262	—		
HDPE 140 3	27.7	32	77950	281	161	263	245	—	—	110	212	194	262	—		
HDPE 140 3	32.9	27.3	77100	235	161	—	—	—	—	110	212	194	—	—		
HDPE 140 3	36.4	24.7	79150	218	161	—	—	—	—	110	—	194	—	—		
HDPE 140 3	41.1	21.9	77100	188	161	—	—	—	—	110	—	—	—	—		
HDPE 140 3	45.5	19.8	79150	174	161	—	—	—	—	110	—	—	—	—		
HDPE 140 3	50.7	17.7	74700	147	—	—	—	—	—	110	—	—	—	—		
HDPE 140 3	56.2	16.0	79150	141	—	—	—	—	—	110	—	—	—	—		
HDPE 140 3	65.1	13.8	77100	119	—	—	—	—	—	110	—	—	—	—		
HDPE 140 3	72.0	12.5	79150	110	—	—	—	—	—	—	—	—	—	—		
HDPE 140 3	81.3	11.1	77100	95	—	—	—	—	—	—	—	—	—	—		
HDPE 140 3	90.0	10.0	79150	88	—	—	—	—	—	—	—	—	—	—		
HDPE 140 3	100.3	9.0	74700	75	—	—	—	—	—	—	—	—	—	—		
HDPE 140 3	111.0	8.1	79150	71	—	—	—	—	—	—	—	—	—	—		
HDPE 140 3	124.7	7.2	71700	58	—	—	—	—	—	—	—	—	—	—		

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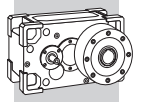


4.2 - RAPPORTI ESATTI

4.2 - EXACT RATIOS

4.2 - EXAKTE ÜBERSETZUNG

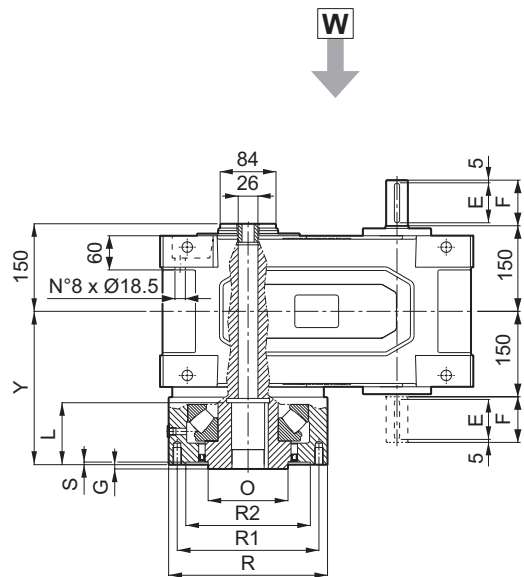
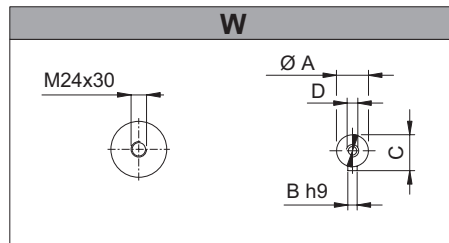
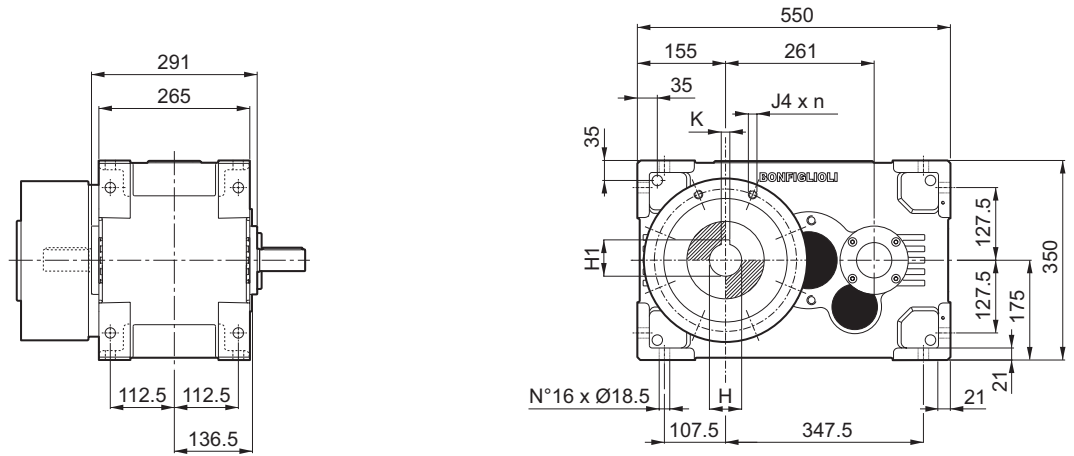
	i _N	i								
		HDPE 60	HDPE 70	HDPE 80	HDPE 90	HDPE 100	HDPE 110	HDPE 120	HDPE 130	HDPE 140
2x 	7.1	7.146	—	—	—	7.400	—	—	7.263	—
	8.0	8.031	8.039	8.063	7.929	8.222	8.085	7.907	7.929	8.359
	9.0	8.969	9.333	9.361	8.828	9.106	8.956	8.611	8.613	9.250
	10.0	10.079	10.090	9.844	10.059	10.118	9.949	10.302	9.402	9.913
	11.2	11.156	11.714	11.429	11.200	11.250	11.021	11.219	11.307	10.969
	12.5	12.538	12.551	12.600	12.214	12.500	12.292	13.013	12.343	13.013
	14.0	13.533	14.571	14.629	13.600	14.160	13.616	14.171	14.133	14.400
	16.0	15.209	15.225	15.488	15.807	15.733	15.471	15.976	15.429	16.267
	18.0	17.267	17.676	17.981	17.600	18.000	17.138	17.398	17.431	18.000
	20.0	19.404	19.425	19.441	20.086	20.000	19.667	20.624	19.029	20.062
	22.4	—	22.552	22.571	22.364	21.786	21.786	22.459	21.652	22.200
25.0	—	—	—	—	—	25.000	25.357	—	24.941	
3x 	22.4	22.686	—	—	—	22.765	—	—	21.785	—
	25.0	25.494	25.521	25.800	25.406	25.294	24.873	25.756	23.781	25.073
	28.0	28.219	29.630	29.954	28.288	28.125	27.553	28.048	28.599	27.744
	31.5	31.713	31.746	31.713	32.878	31.250	30.729	32.533	31.220	32.916
	35.5	34.231	36.857	36.818	36.608	35.400	34.040	35.429	35.749	36.424
	40.0	38.470	38.510	39.809	40.036	39.333	38.678	39.940	39.025	41.145
	45.0	43.675	44.710	46.218	44.578	45.000	42.845	43.495	44.090	45.529
	50.0	49.082	49.134	51.625	51.811	50.000	49.167	51.560	48.131	50.746
	56.0	56.578	57.044	59.937	57.689	55.547	54.464	56.148	56.533	56.153
	63.0	63.583	63.650	64.805	65.837	61.719	60.690	64.253	61.714	65.067
	71.0	68.633	73.898	75.238	73.306	69.915	67.229	69.971	70.667	72.000
	80.0	77.131	77.213	76.405	77.818	77.683	76.389	78.882	77.143	81.333
	90.0	87.567	89.644	88.706	86.646	88.875	84.619	85.902	87.156	90.000
	100.0	98.408	98.513	95.911	98.884	98.750	97.104	101.830	95.143	100.311
112.0	—	114.373	111.352	110.102	107.567	107.567	110.892	108.259	111.000	
125.0	—	—	—	—	—	123.438	125.201	—	124.704	



5 - DIMENSIONI

5 - DIMENSIONS

5 - ABMESSUNGEN

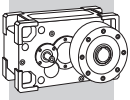


Cuscinetto Bearing Kugellager	G	H _{max}	H1	J4	K	L _{max}	O	R	R1	R2	S	Y
29417E (**)	10	50 H7	53.8	M16 x n8	14	95	120	290	220	190	6	255
29418E	(*)	55 H7	59.3	(*)	16	105	(*)	290	(*)	(*)	(*)	265
29420E	10	60 H7	64.4	M16 x n8	18	90	140	290	250	220	6	265

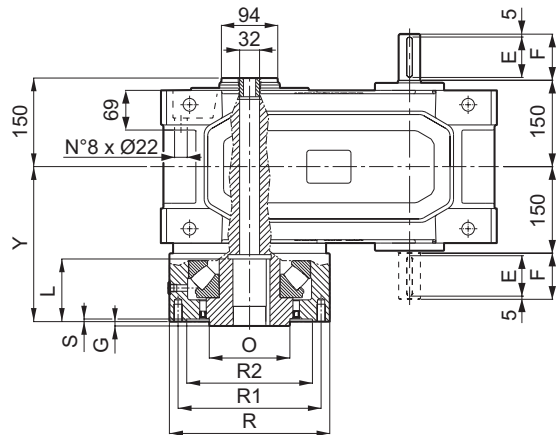
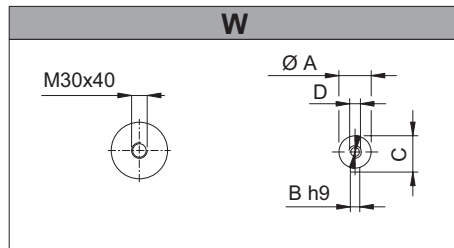
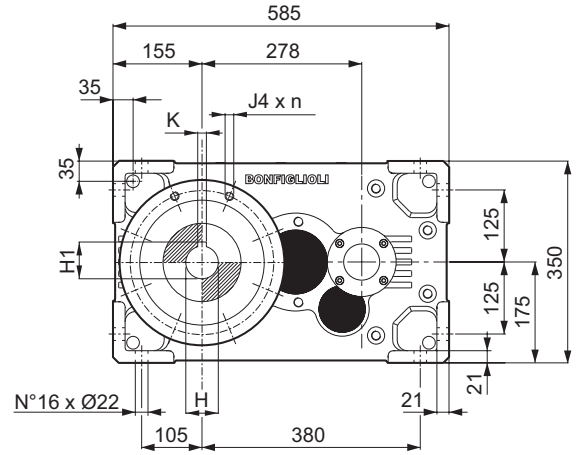
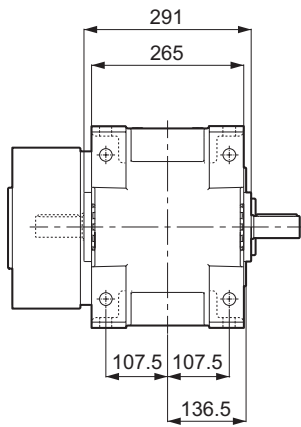
(**) Suggestita l'applicazione di un fattore di servizio minimo $f_s = 2.0$
 The application of a minimum service factor $f_s = 2.0$ is recommended
 Es wird ein min. Servicefaktor $f_s = 2.0$ vorgegeben

(*) **BONFIGLIOLI**
 TECHNICAL SERVICE

VP	i =	A	B	C	D	E	F
HDPE 60 2	7.1 ... 15.2	38 k6	10	41	M12x28	70	80
HDPE 60 2	17.3 ... 19.4	32 k6	10	35	M12x28	70	80
HDPE 60 3	22.7 ... 49.1	32 k6	10	35	M12x28	70	80
HDPE 60 3	56.6 ... 98.4	28 j6	8	31	M10x22	50	60



HDPE 70

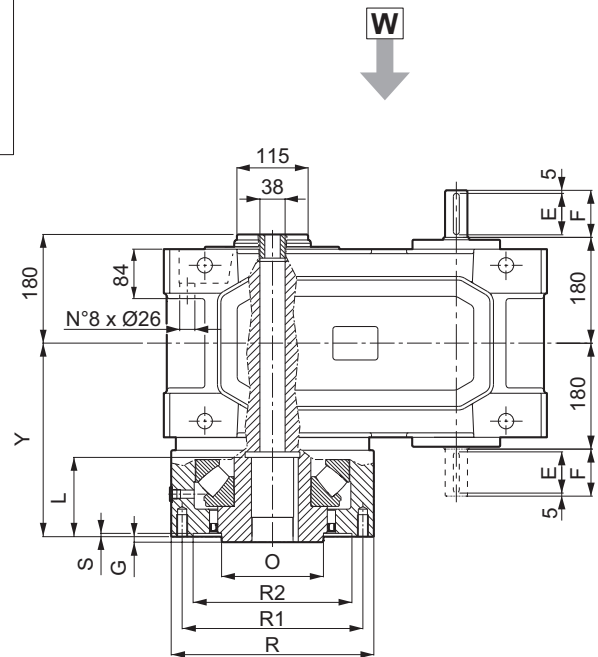
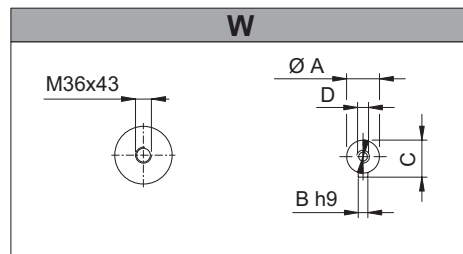
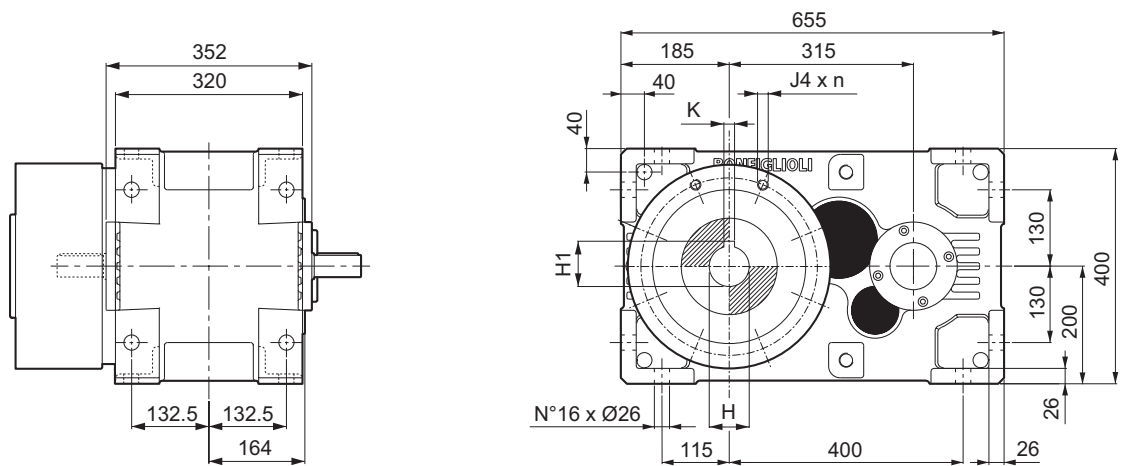
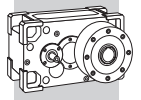


Cuscinetto Bearing Kugellager	G	H _{max}	H1	J4	K	L _{max}	O	R	R1	R2	S	Y
29417E (**)	(*)	55 H7	59.3	(*)	16	110	(*)	290	(*)	(*)	(*)	255
29418E	(*)	60 H7	64.4	(*)	18	120	(*)	290	(*)	(*)	(*)	265
29420E	10	60 H7	64.4	M16 x n8	18	120	140	290	250	220	6	265

(**) Suggestita l'applicazione di un fattore di servizio minimo $f_s = 2.0$
The application of a minimum service factor $f_s = 2.0$ is recommended
 Es wird ein min. Servicefaktor $f_s = 2.0$ vorgegeben

(*) **BONFIGLIOLI**
 TECHNICAL SERVICE

VP	i =	A	B	C	D	E	F
HDPE 70 2	8.0 ... 17.7	38 k6	10	41	M12x28	70	80
HDPE 70 2	19.4 ... 22.6	32 k6	10	35	M12x28	70	80
HDPE 70 3	25.5 ... 57.0	32 k6	10	35	M12x28	70	80
HDPE 70 3	63.7 ... 114.4	28 j6	8	31	M10x22	50	60

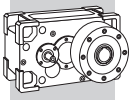


Cuscinetto Bearing Kugellager	G	H _{max}	H1	J4	K	L _{max}	O	R	R1	R2	S	Y
29420E (**)	(*)	65 H7	69.4	(*)	18	150	(*)	350	(*)	(*)	(*)	315
29422E	(*)	70 H7	74.9	(*)	20	165	(*)	350	(*)	(*)	(*)	315
29424E	10	75 H7	79.9	M20 x n8	20	160	170	350	290	250	8	315
29426E	(*)	80 H7	85.4	(*)	22	135	(*)	370	(*)	(*)	(*)	325
29428E	10	85 H7	90.4	M20 x n12	22	130	190	370	320	280	8	325

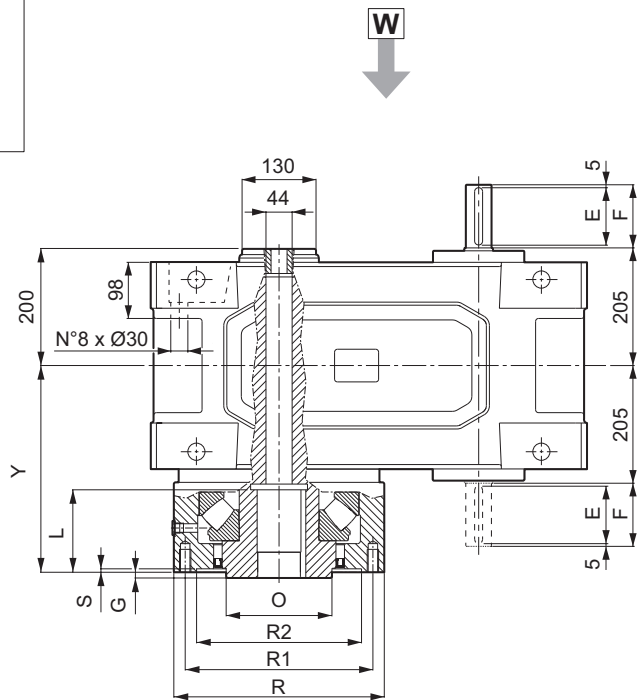
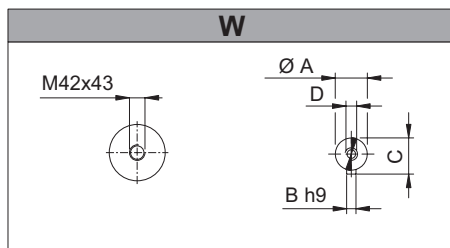
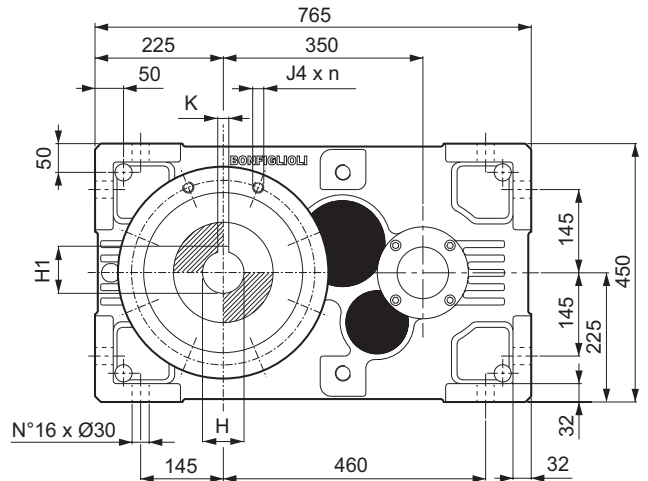
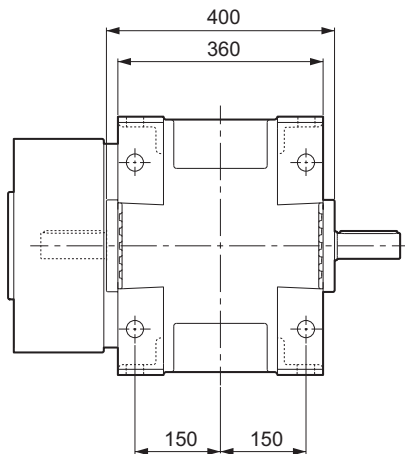
(**) Suggestita l'applicazione di un fattore di servizio minimo $f_s = 2.0$
 The application of a minimum service factor $f_s = 2.0$ is recommended
 Es wird ein min. Servicefaktor $f_s = 2.0$ vorgegeben

(*) BONFIGLIOLI
 TECHNICAL SERVICE

VP	i =	A	B	C	D	E	F
HDPE 80 2	8.1 ... 14.6	45 k6	14	48.5	M16x36	100	110
HDPE 80 2	15.5 ... 22.6	38 k6	10	41	M12x28	70	80
HDPE 80 3	25.8 ... 75.2	38 k6	10	41	M12x28	70	80
HDPE 80 3	76.4 ... 114.4	28 j6	8	31	M10x22	50	60



HDPE 90

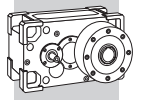


Cuscinetto Bearing Kugellager	G	H _{max}	H1	J4	K	L _{max}	O	R	R1	R2	S	Y
29422E (**)	(*)	75 H7	79.9	(*)	20	170	(*)	370	(*)	(*)	(*)	345
29424E (**)	(*)	75 H7	79.9	(*)	20	170	(*)	370	(*)	(*)	(*)	345
29426E	10	80 H7	85.4	M20 x n12	22	190	180	370	315	280	8	345
29428E	(*)	85 H7	90.4	(*)	22	180	(*)	400	(*)	(*)	(*)	355
29430E	10	90 H7	95.4	M24 x n12	25	165	200	400	350	315	8	355

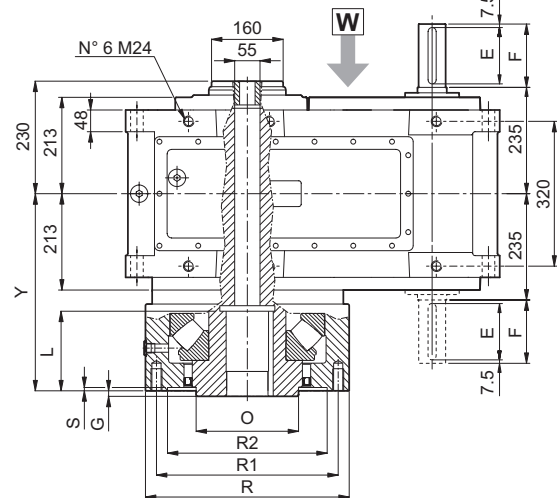
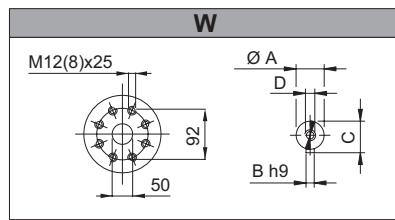
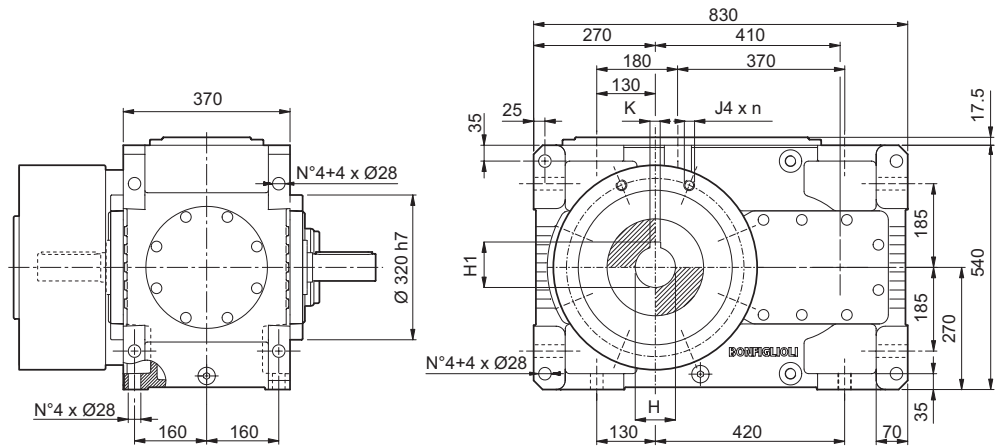
(**) Sugerita l'applicazione di un fattore di servizio minimo $f_s = 2.0$
 The application of a minimum service factor $f_s = 2.0$ is recommended
 Es wird ein min. Servicefaktor $f_s = 2.0$ vorgegeben

(*) BONFIGLIOLI
 TECHNICAL SERVICE

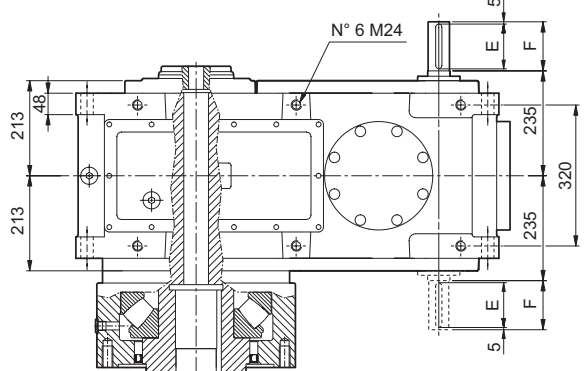
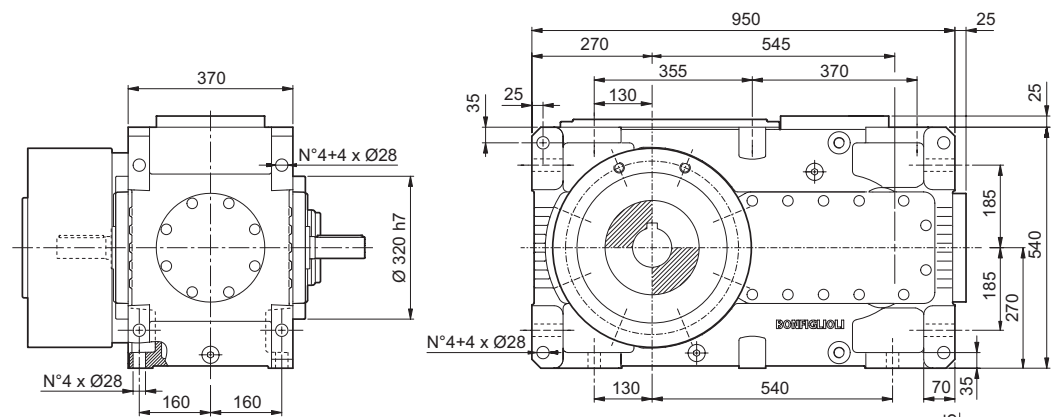
VP	i =	A	B	C	D	E	F
HDPE 90 2	7.9 ... 13.6	50 k6	14	53.5	M16x36	100	110
HDPE 90 2	15.8 ... 22.4	45 k6	14	48.5	M16x36	100	110
HDPE 90 3	25.4 ... 73.3	45 k6	14	48.5	M16x36	100	110
HDPE 90 3	77.8 ... 110.1	32 k6	10	35	M12x28	70	80



HDPE 100 2



HDPE 100 3

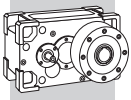


(*) BONFIGLIOLI TECHNICAL SERVICE

Cuscinetto Bearing Kugellager	G	H _{max}	H1	J4	K	L _{max}	O	R	R1	R2	S	Y
29426E (**)	(*)	85 H7	90.4	(*)	22	195	(*)	400	(*)	(*)	(*)	385
29428E (**)	(*)	85 H7	90.4	(*)	22	195	(*)	400	(*)	(*)	(*)	385
29430E	10	90 H7	95.4	M24 x n12	25	235	200	450	350	315	8	385
29432E	(*)	95 H7	100.4	(*)	25	225	(*)	450	(*)	(*)	(*)	390
29434E	10	100 H7	106.4	M24 x n12	28	180	230	450	400	345	10	405

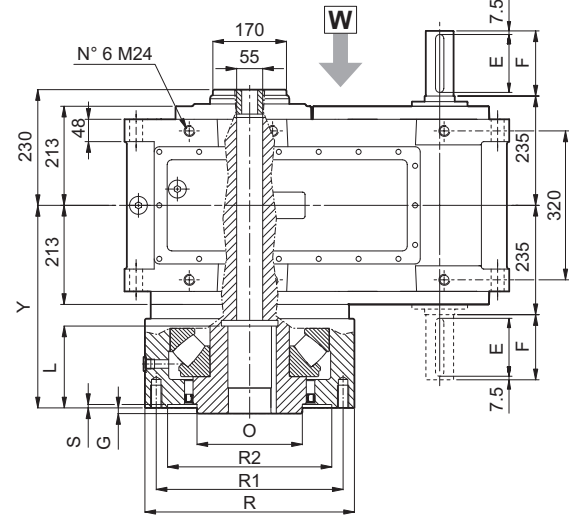
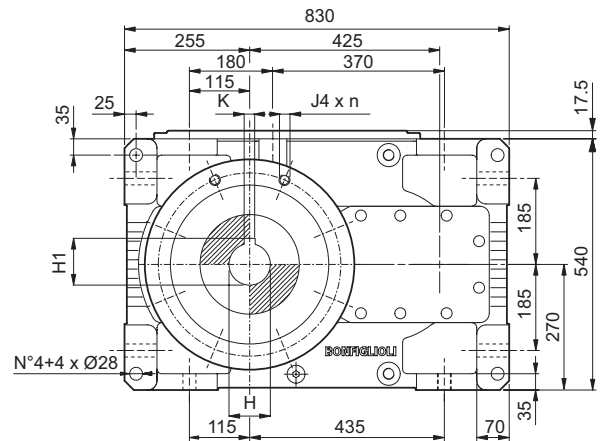
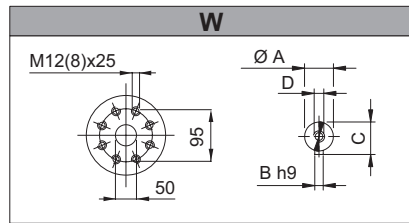
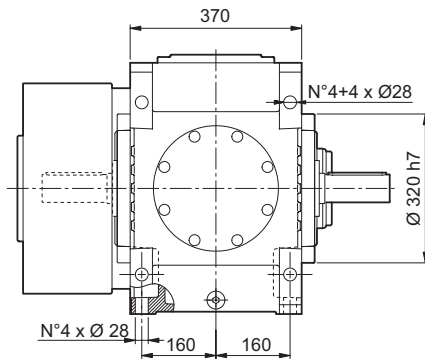
(**) Suggestita l'applicazione di un fattore di servizio minimo $f_s = 2.0$
 The application of a minimum service factor $f_s = 2.0$ is recommended
 Es wird ein min. Servicefaktor $f_s = 2.0$ vorgegeben

VP	i =	A	B	C	D	E	F
HDPE 100 2	7.4 ... 21.8	60 m6	18	64	M20x42	125	140
HDPE 100 3	22.8 ... 50	48 k6	14	51.5	M16x36	100	110
HDPE 100 3	55.5 ... 107.8	45 k6	14	48.5	M16x36	100	110

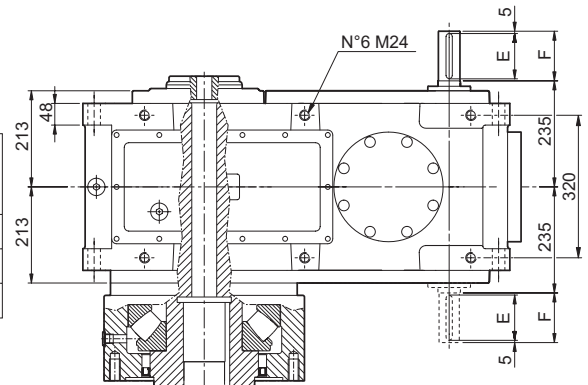
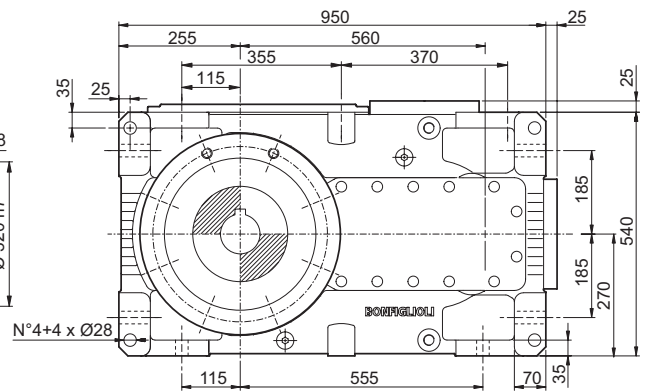
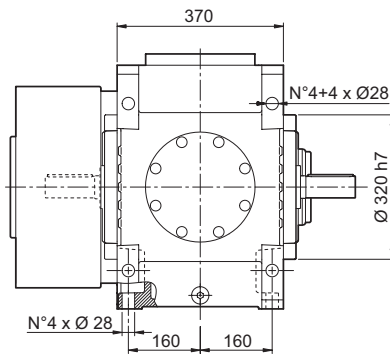


HDPE 110

HDPE 110 2



HDPE 110 3

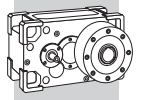


(*) BONFIGLIOLI TECHNICAL SERVICE

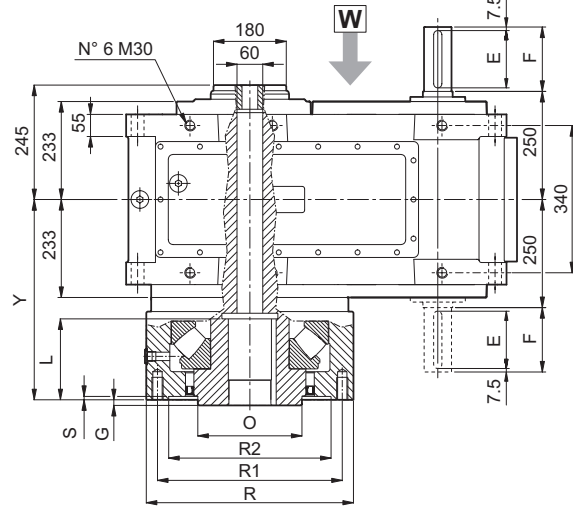
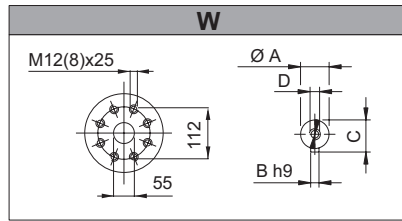
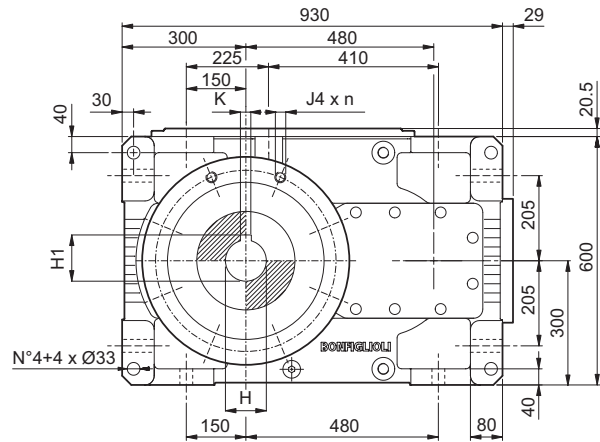
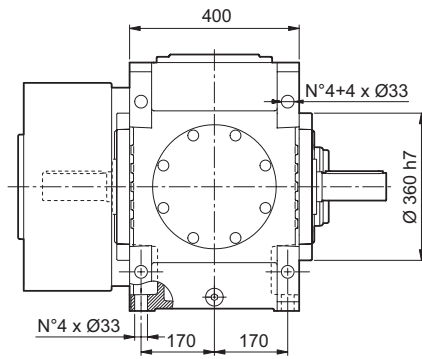
Cuscinetto Bearing Kugellager	G	H _{max}	H1	J4	K	L _{max}	O	R	R1	R2	S	Y
29430E (**)	(*)	90 H7	95.4	(*)	25	210	(*)	450	(*)	(*)	(*)	385
29432E	(*)	95 H7	100.4	(*)	25	265	(*)	450	(*)	(*)	(*)	390
29434E	10	100 H7	106.4	M24 x n12	28	210	230	450	400	345	10	405

(**) Sugerita l'applicazione di un fattore di servizio minimo $f_s = 2.0$
 The application of a minimum service factor $f_s = 2.0$ is recommended
 Es wird ein min. Servicefaktor $f_s = 2.0$ vorgegeben

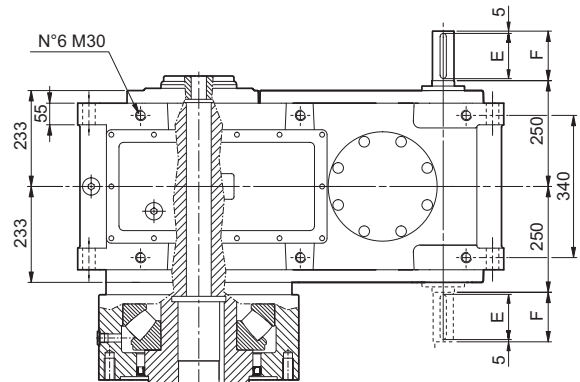
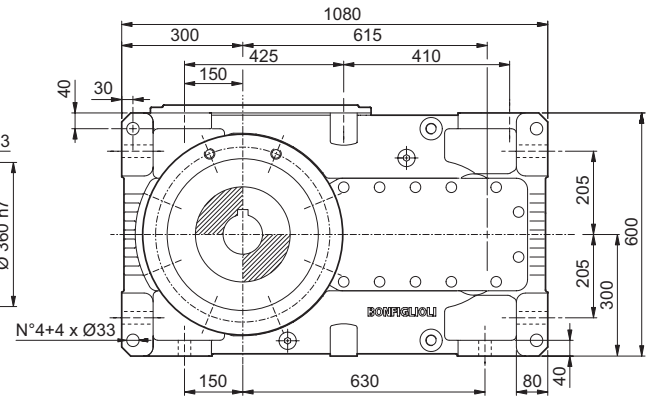
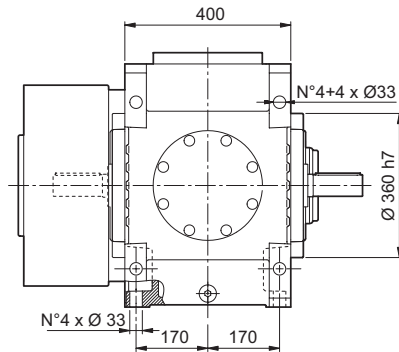
VP	i =	A	B	C	D	E	F
HDPE 110 2	8.1 ... 25.0	60 m6	18	64	M20x42	125	140
HDPE 110 3	24.9 ... 54.5	48 k6	14	51.5	M16x36	100	110
HDPE 110 3	60.7 ... 123.5	45 k6	14	48.5	M16x36	100	110



HDPE 120 2



HDPE 120 3

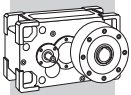


(*) BONFIGLIOLI TECHNICAL SERVICE

Cuscinetto Bearing Kugellager	G	H _{max}	H1	J4	K	L _{max}	O	R	R1	R2	S	Y
29434E (**)	(*)	100 H7	106.4	(*)	28	195	(*)	450	(*)	(*)	(*)	420
29436E	10	110 H7	116.4	M24 x n12	28	240	260	560	460	410	10	435
29438E	(*)	120 H7	127.4	(*)	32	200	(*)	560	(*)	(*)	(*)	455
29440E	10	135 H7	143.4	M30 x n12	36	175	280	560	510	460	10	455

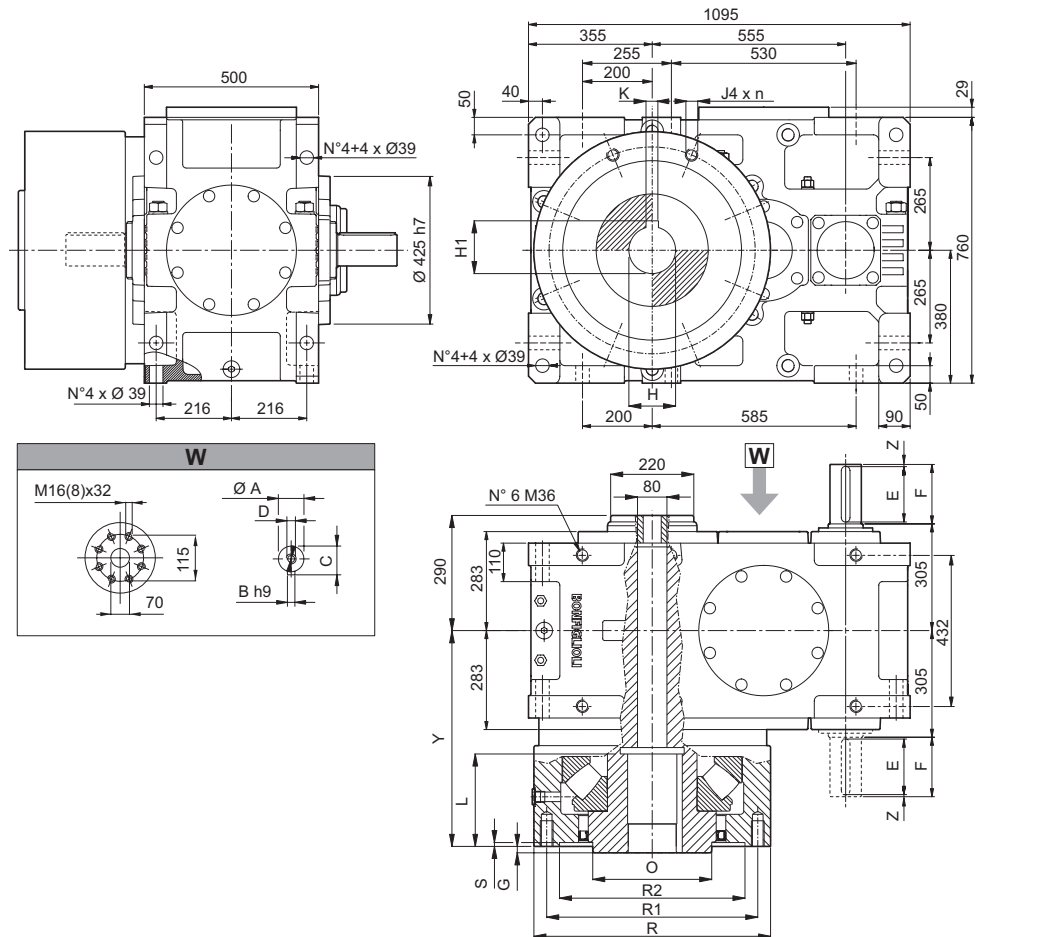
(**) Suggestita l'applicazione di un fattore di servizio minimo $f_s = 2.0$
 The application of a minimum service factor $f_s = 2.0$ is recommended
 Es wird ein min. Servicefaktor $f_s = 2.0$ vorgegeben

VP	i =	A	B	C	D	E	F
HDPE 120 2	7.9 ... 25.4	70 m6	20	74.5	M20x42	125	140
HDPE 120 3	25.8 ... 56.1	48 k6	14	51.5	M16x36	100	110
HDPE 120 3	64.3 ... 125.2	45 k6	14	48.5	M16x36	100	110

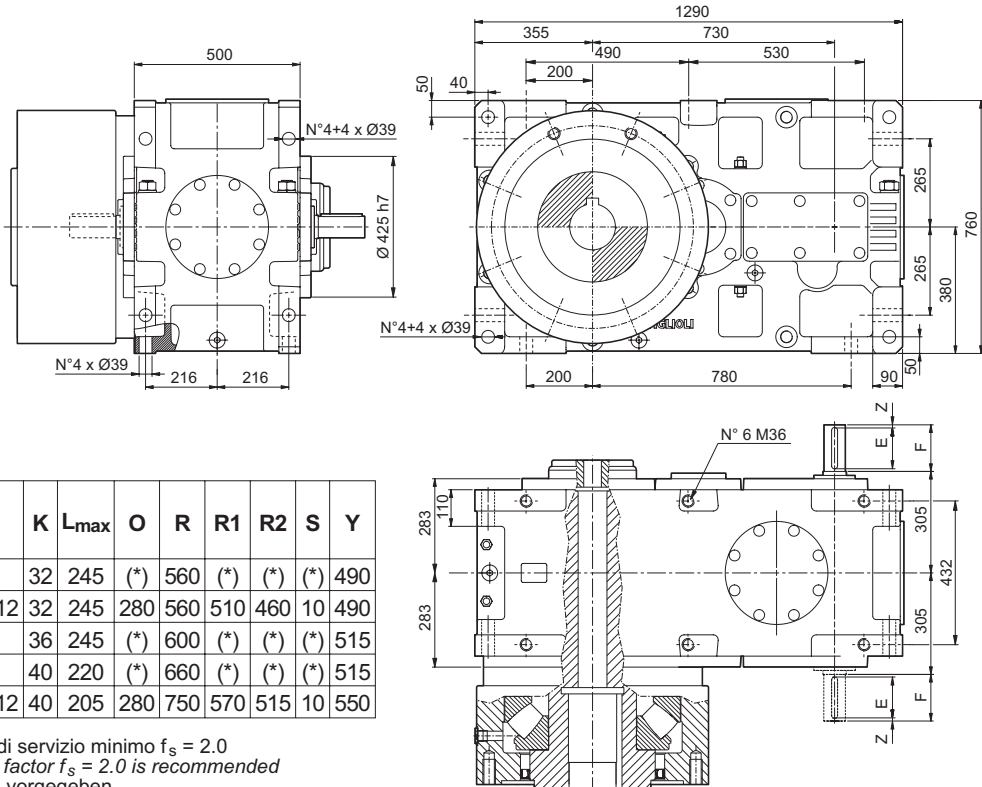


HDPE 130

HDPE 130 2



HDPE 130 3

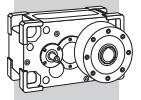


(*) BONFIGLIOLI TECHNICAL SERVICE

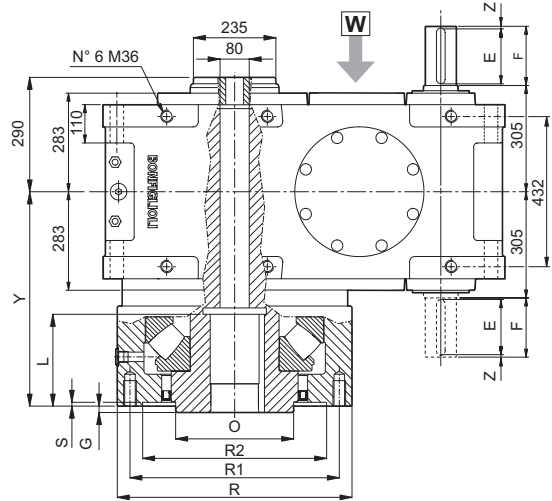
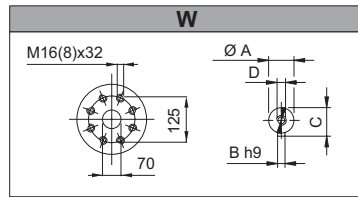
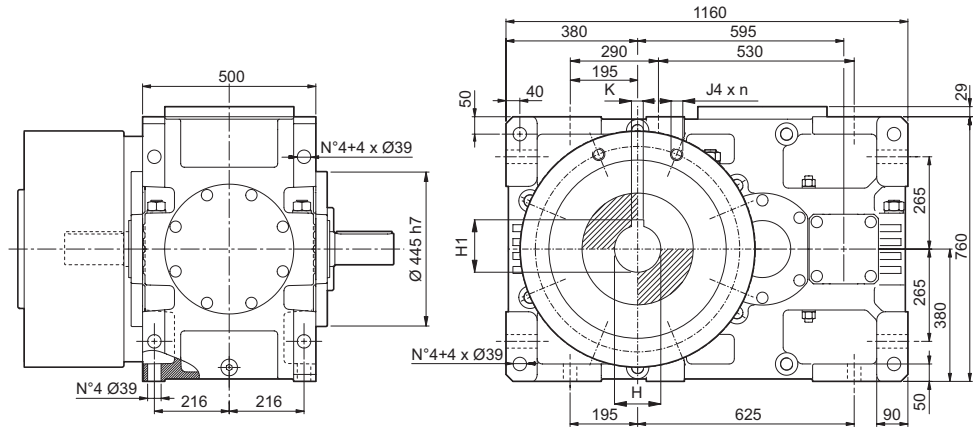
Cuscinetto Bearing Kugellager	G	H _{max}	H1	J4	K	L _{max}	O	R	R1	R2	S	Y
29438E (**)	(*)	120 H7	127.4	(*)	32	245	(*)	560	(*)	(*)	(*)	490
29440E (**)	10	120 H7	127.4	M30 x n12	32	245	280	560	510	460	10	490
29448E	(*)	150 H7	158.4	(*)	36	245	(*)	600	(*)	(*)	(*)	515
29452E	(*)	160 H7	169.4	(*)	40	220	(*)	660	(*)	(*)	(*)	515
29456E	10	170 H7	179.4	M33 x n12	40	205	280	750	570	515	10	550

(**) Sugerita l'applicazione di un fattore di servizio minimo $f_s = 2.0$
 The application of a minimum service factor $f_s = 2.0$ is recommended
 Es wird ein min. Servicefaktor $f_s = 2.0$ vorgegeben

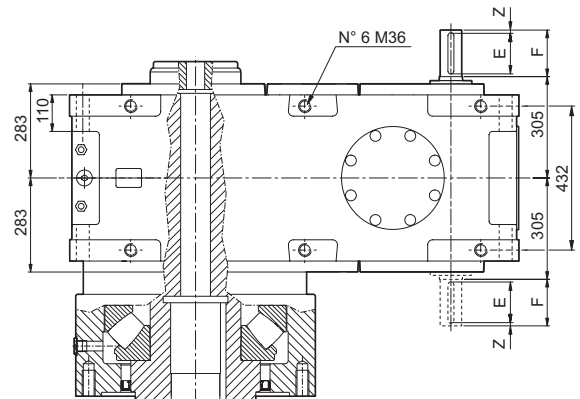
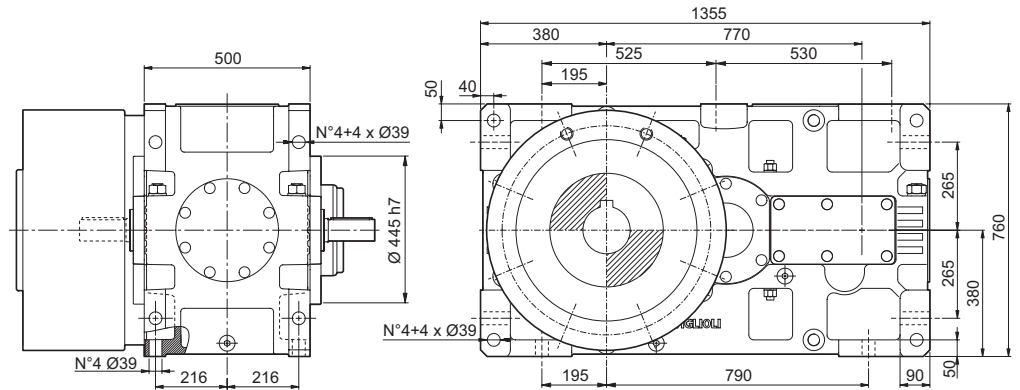
VP	i =	A	B	C	D	E	F	Z
HDPE 130 2	7.3 ... 12.3	90 m6	25	95	M24x50	160	170	5
HDPE 130 2	14.1 ... 21.7	70 m6	20	74.5	M20x42	125	140	7.5
HDPE 130 3	21.8 ... 48.1	65 m6	18	69	M20x42	125	140	7.5
HDPE 130 3	56.5 ... 108.3	50 k6	14	53.5	M16x36	100	110	5



HDPE 140 2



HDPE 140 3

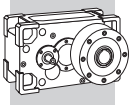


(*) BONFIGLIOLI TECHNICAL SERVICE

Cuscinetto Bearing Kugellager	G	H _{max}	H1	J4	K	L _{max}	O	R	R1	R2	S	Y
29440E (**)	(*)	120 H7	127.4	(*)	32	300	(*)	560	(*)	(*)	(*)	490
29448E	(*)	150 H7	158.4	(*)	36	305	(*)	600	(*)	(*)	(*)	515
29452E	10	160 H7	169.4	M33 x n12	40	270	320	660	570	515	10	515
29456E	10	170 H7	179.4	M36 x n12	40	250	350	750	660	590	10	550

(**) Sugerita l'applicazione di un fattore di servizio minimo $f_s = 2.0$
 The application of a minimum service factor $f_s = 2.0$ is recommended
 Es wird ein min. Servicefaktor $f_s = 2.0$ vorgegeben

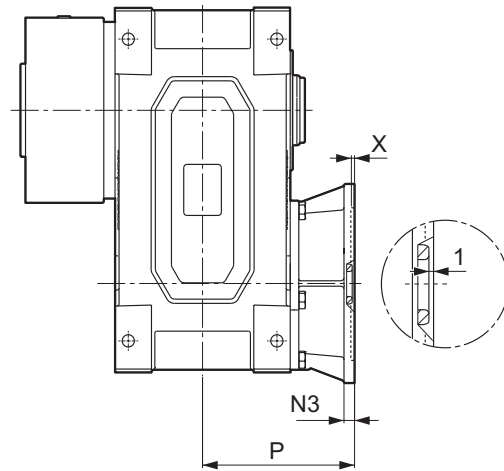
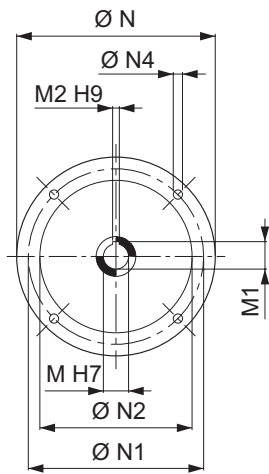
VP	i =	A	B	C	D	E	F	Z
HDPE 140 2	8.4 ... 14.4	90 m6	25	95	M24x50	160	170	5
HDPE 140 2	16.3 ... 24.9	70 m6	20	74.5	M20x42	125	140	7.5
HDPE 140 3	25.1 ... 56.2	65 m6	18	69	M20x42	125	140	7.5
HDPE 140 3	65.1 ... 124.7	50 k6	14	53.5	M16x36	100	110	5





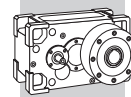
**5.1 - PREDISPOSIZIONE ATTACCO
MOTORE DIRETTO**

**5.1 - MOTOR MOUNTING FOR
DIRECT COUPLING**

**5.1 - VORRÜSTUNG FÜR DEN
DIREKTEN ANSCHLUSS
DES MOTORS**



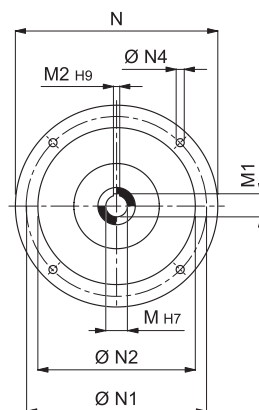
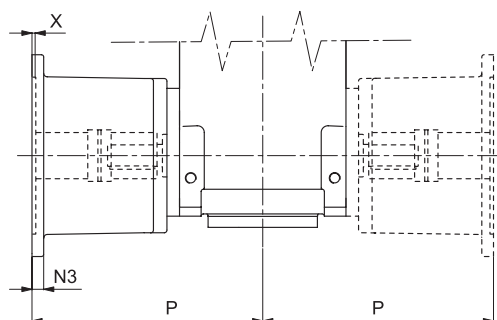
		M	M1	M2	N	N1	N2	N3	N4	X	P
HDPE 60 3_112		28	31.3	8	250	215	180	15	14	5	220
HDPE 60 3_132		38	41.3	10	300	265	230	16	14	5	230
HDPE 60 3_160		42	45.3	12	350	300	250	23	18	6	261
HDPE 60 3_180		48	51.8	14	350	300	250	23	18	6	261
HDPE 70 3_112		28	31.3	8	250	215	180	15	14	5	220
HDPE 70 3_132		38	41.3	10	300	265	230	16	14	5	230
HDPE 70 3_160		42	45.3	12	350	300	250	23	18	6	261
HDPE 70 3_180		48	51.8	14	350	300	250	23	18	6	261
HDPE 70 3_200		55	59.3	16	400	350	300	—	M16x23	7	286
HDPE 80 3_132		38	41.3	10	300	265	230	16	14	5	257.5
HDPE 80 3_160		42	45.3	12	350	300	250	23	18	6	288.5
HDPE 80 3_180		48	51.8	14	350	300	250	23	18	6	288.5
HDPE 80 3_200		55	59.3	16	400	350	300	—	M16x23	7	313.5
HDPE 90 3_160		42	45.3	12	350	300	250	23	18	6	308.5
HDPE 90 3_180		48	51.8	14	350	300	250	23	18	6	308.5
HDPE 90 3_200		55	59.3	16	400	350	300	—	M16x23	7	333.5



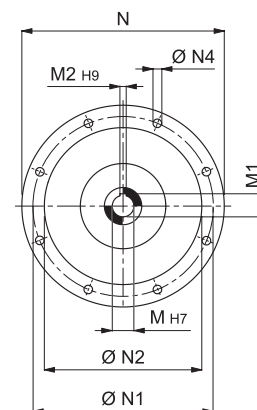
5.2 - PREDISPOSIZIONE ATTACCO MOTORE CON CAMPANA E GIUNTO ELASTICO

5.2 - MOTOR MOUNTING WITH BELL HOUSING AND FLEXIBLE COUPLING



5.2 - AUSLEGUNG FÜR MOTORANSCHLUSS MIT GLOCKE UND ELASTISCHER KUPPLUNG

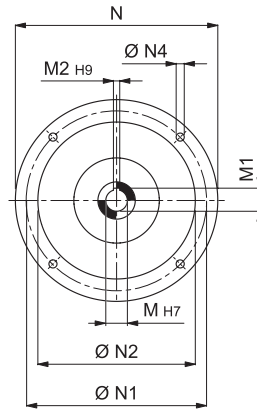
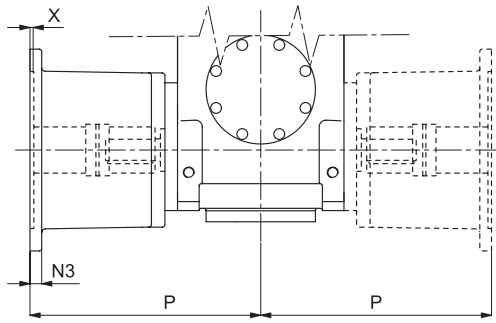
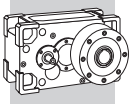


Ø N1 ≤ 350

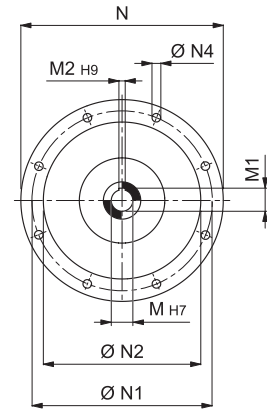


Ø N1 ≥ 400



		M	M1	M2	N	N1	N2	N3	N4	X	P
HDPE 60_132		38	41.3	10	300	265	230	16	14	5	311
HDPE 60_160		42	45.3	12	350	300	250	23	18	6	341
HDPE 60_180		48	51.8	14	350	300	250	23	18	6	341
HDPE 60_200		55	59.3	16	400	350	300	—	M16x23	7	366
HDPE 60_225		60	64.4	18	450	400	350	25	18	7	374
HDPE 70_132		38	41.3	10	300	265	230	16	14	5	311
HDPE 70_160		42	45.3	12	350	300	250	23	18	6	341
HDPE 70_180		48	51.8	14	350	300	250	23	18	6	341
HDPE 70_200		55	59.3	16	400	350	300	—	M16x23	7	366
HDPE 70_225		60	64.4	18	450	400	350	25	18	7	374
HDPE 80_160		42	45.3	12	350	300	250	23	18	6	371
HDPE 80_180		48	51.8	14	350	300	250	23	18	6	371
HDPE 80_200		55	59.3	16	400	350	300	—	M16x23	7	396
HDPE 80_225		60	64.4	18	450	400	350	25	18	7	432
HDPE 80_250		65	69.4	18	550	500	450	30	18	6	462
HDPE 80_280		75	79.9	20	550	500	450	30	18	6	462
HDPE 90_160		42	45.3	12	350	300	250	23	18	6	427
HDPE 90_180		48	51.8	14	350	300	250	23	18	6	427
HDPE 90_200		55	59.3	16	400	350	300	—	M16x23	7	452
HDPE 90_225		60	64.4	18	450	400	350	25	18	7	457
HDPE 90_250		65	69.4	18	550	500	450	30	18	6	487
HDPE 90_280		75	79.9	20	550	500	450	30	18	6	487
HDPE 100_112		28	31.3	8	250	215	180	15	14	5	395
HDPE 100_132		38	41.3	10	300	265	230	—	M12x20	6	415
HDPE 100_160		42	45.3	12	350	300	250	23	18	6	481
HDPE 100_180		48	51.8	14	350	300	250	23	18	6	481
HDPE 100_200		55	59.3	16	400	350	300	—	M16x23	7	506
HDPE 100_225		60	64.4	18	450	400	350	26	18	7	513
HDPE 100_250		65	69.4	18	550	500	450	30	18	6	543
HDPE 100_280		75	79.9	20	550	500	450	30	18	6	543
HDPE 100_315		80	85.4	22	660	600	550	22	22	10	579.5

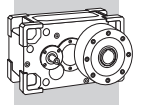


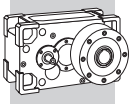
Ø N1 ≤ 350




Ø N1 ≥ 400

		M	M1	M2	N	N1	N2	N3	N4	X	P
HDPE 110_112		28	31.3	8	250	215	180	15	14	5	395
HDPE 110_132		38	41.3	10	300	265	230	—	M12x20	6	415
HDPE 110_160		42	45.3	12	350	300	250	23	18	6	481
HDPE 110_180		48	51.8	14	350	300	250	23	18	6	481
HDPE 110_200		55	59.3	16	400	350	300	—	M16x23	7	506
HDPE 110_225		60	64.4	18	450	400	350	26	18	7	513
HDPE 110_250		65	69.4	18	550	500	450	30	18	6	543
HDPE 110_280		75	79.9	20	550	500	450	30	18	6	543
HDPE 110_315		80	85.4	22	660	600	550	22	22	10	579.5
HDPE 120_132		38	41.3	10	300	265	230	—	M12x20	6	430
HDPE 120_160		42	45.3	12	350	300	250	23	18	6	496
HDPE 120_180		48	51.8	14	350	300	250	23	18	6	496
HDPE 120_200		55	59.3	16	400	350	300	—	M16x23	7	521
HDPE 120_225		60	64.4	18	450	400	350	26	18	7	528
HDPE 120_250		65	69.4	18	550	500	450	30	18	6	558
HDPE 120_280		75	79.9	20	550	500	450	30	18	6	558
HDPE 120_315		80	85.4	22	660	600	550	22	22	10	594.5
HDPE 130_160		42	45.3	12	350	300	250	23	18	6	551
HDPE 130_180		48	51.8	14	350	300	250	23	18	6	551
HDPE 130_200		55	59.3	16	400	350	300	—	M16x23	7	576
HDPE 130_225		60	64.4	18	450	400	350	26	18	7	583
HDPE 130_250		65	69.4	18	550	500	450	30	18	6	613
HDPE 130_280		75	79.9	20	550	500	450	30	18	6	613
HDPE 130_315		80	85.4	22	660	600	550	22	22	10	649.5
HDPE 140_160		42	45.3	12	350	300	250	23	18	6	551
HDPE 140_180		48	51.8	14	350	300	250	23	18	6	551
HDPE 140_200		55	59.3	16	400	350	300	—	M16x23	7	576
HDPE 140_225		60	64.4	18	450	400	350	26	18	7	583
HDPE 140_250		65	69.4	18	550	500	450	30	18	6	613
HDPE 140_280		75	79.9	20	550	500	450	30	18	6	613
HDPE 140_315		80	85.4	22	660	600	550	22	22	10	649.5



**INDICE DI REVISIONE (R)****INDEX OF REVISIONS (R)****LISTE DER ÄNDERUNGEN (R)**

R01_0			
	Descrizione	Description	Beschreibung
10, 12	Aggiunto informazioni relative a "Configurazione albero lento".	<i>Added information concerning "Output shaft configuration".</i>	Added information concerning "Output shaft configuration".
41...49	Aggiornato capitolo "Dimensioni".	<i>"Dimensions" chapter updated.</i>	Kapitel "Abmessungen" aktualisiert.

140122

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