GPL 008

POMPE-MOTORI-DIVISORI DI FLUSSO AD INGRANAGGI SERIE L

GEARS PUMPS-MOTORS AND FLOW DIVIDERS SERIES L

ZAHNRADPUMPEN, -MOTOREN UND MENGENTEILER BAUREIHE L

BONDIOLI & PAVESI
HP Hydraulic

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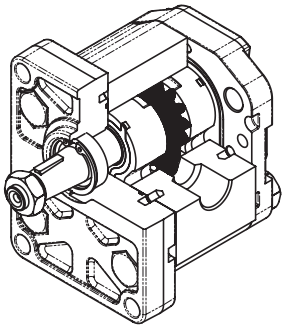
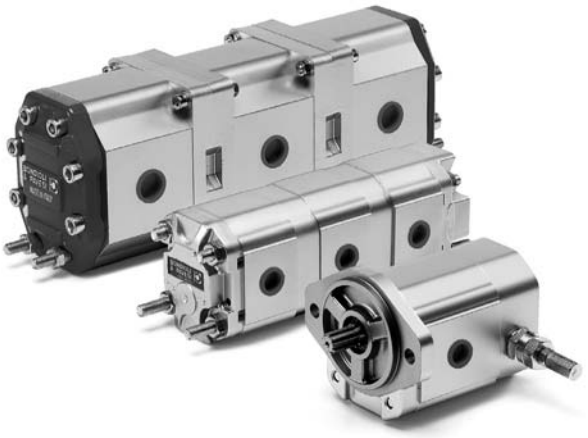
Tra le unità idrostatiche le pompe e motori ad ingranaggi sono tra le più prodotte ed utilizzate: la robustezza della concezione, il favorevole rapporto prezzo/prestazioni, la semplicità di installazione, la possibilità di soluzioni personalizzate, l'integrazione con componenti di controllo (valvole) sono alcuni dei punti caratterizzanti questi prodotti.
L'offerta HP Hydraulic si innesta su una pluridecennale e consolidata tradizione di sviluppo e produzione di unità ad ingranaggi con spirito innovativo nel design e nei processi produttivi.
Questo permette di offrire una gamma di pompe ad ingranaggi con corpo in alluminio suddivisa in modo ottimale in gruppi e cilindrate (da 0,17 a 90 cc/giro) con la possibilità di varianti ad hoc e con prestazioni che permettono ogni tipo d'impiego.

Gear pumps and motors are among the most popularly produced and utilized hydrostatic units. Some of their many characteristics are: robust design, profitable price/performance ratio, easy installation, suitability for customized solutions, possible integration with control devices (valves).
HP Hydraulic offers decades of well consolidated experience in the development and production of gear units with a constant approach towards innovation of design and of manufacturing process.
This same experience enables us today to offer a gear pumps range with aluminium body, grouped according to their capacity (from 0,17 to 90 cc/rev.), whose main features can be devised and varied to best respond to customer's requirements and whose performance permits use in any kind of application.

Zahnradpumpen und -motoren gehören zu den meistgebauten und gängigsten hydrostatischen Maschinen: Die robuste Bauweise, das günstige Preis-/Leistungsverhältnis, der einfache Einbau, die Möglichkeit individueller Lösungen, die Kombination mit Steuerungskomponenten (Ventile) sind nur einige der Vorzüge, durch die sich diese Produkte auszeichnen.
Das Angebot von HP Hydraulic beruht auf einer jahrzehntelangen und bewährten Tradition in Entwicklung und Produktion von Zahnradeinheiten mit stark innovativem Gehalt in Design und Produktionsprozessen.
Dadurch sind wir in der Lage, ein Programm von Zahnradpumpen mit Aluminiumgehäuse für jede Anwendung anzubieten, das optimal in Baugruppen und Hubvolumen (von 0,17 bis 90 ccm/U) sowie speziell entwickelte, kundenspezifische Varianten gegliedert ist.





Le pompe HP Hydraulic della serie L sono prodotte in cinque differenti gruppi dimensionali 0,1,2, 3, 4, all'interno dei quali vengono ottenute le differenti cilindrate. Una gamma completa di flangie, estremità d'albero e la possibilità di ottenere pompe multiple e /o con valvole integrate nel coperchio posteriore completano la gamma di produzione.

HP Hydraulic series L pumps are supplied in five groups, different in size (0,1,2,3,4,). Various capacities will be determined within each group.
The series of products is even further completed with a full range of flanges, shaft ends, and available multiple pumps with or without valves integrated into the back cover.

Die Pumpen HP Hydraulic Baureihe L sind in fünf verschiedenen Baugrößen erhältlich – nämlich 0, 1, 2 3, 4 – innerhalb derer die verschiedenen Hubvolumen lieferbar sind.
Das Produktionsprogramm wird ergänzt durch ein komplettes Angebot von Flanschen und Wellen, und durch die Möglichkeit, Mehrfachpumpen und/oder Pumpen mit Zusatzventilen im Enddeckel auszustatten.

FLUIDO IDRAULICO
Le pompe sono in grado di funzionare con svariati tipi di oli idraulici tra essi:
Fluidi idraulici HLP (DIN 51224 parte2)
Fluidi idraulici HLPV(DIN 51224 parte3)
Oli lubrificanti per motori API CD (SAE J183).
Per fluidi diversi da quelli citati si prega di consultare il ns servizio tecnico.

FLUID
Pumps can operate with many types of hydraulic oil some of them are:
HLP Hydraulic fluids (DIN 51224 part 2)
HLPV Hydraulic fluids (DIN 51224 part 3)
API CD Engine Lubricating oils (SAE J183)
Please contact our Engineering Department if different fluids from those above listed are requested.

HYDRAULIKMEDIUM
Die Pumpen können mit verschiedenen Hydraulikölen betrieben werden. Unter anderem können folgende Öle verwendet werden:
Hydrauliköl HLP (DIN 51224 Teil 2)
Hydrauliköl HLPV(DIN 51224 Teil 3)
Motoröle API CD (SAE J183)
Für andere Öle als oben angegeben ist eine Rücksprache mit unserem technischen Kundendienst unerläßlich.

TEMPERATURA DI FUNZIONAMENTO
- Minima -20° C
- Massima continua 85° C
- Di picco (intermittente) 100° C

OPERATING
The Temperature range limits of a pump (standard version) are tabulated and summarized below.
- *Temperature Minimum -20° C*
- *Maximum continuous 85° C*
- *Peak (intermitting) 100° C*

TEMPERATUR
- Mindestwert -20° C
- Dauerhöchsttemperatur 85° C
- Spitzentemperatur (intermittierend) 100° C

VISCOSITÀ
- Minima 10 mm^2/s
- Massima (partenza a freddo) 1400 mm^2/s
- Campo di viscosità raccomandato12-90 mm^2/s

VISCOSITY
- *Minimum 10 mm^2/s*
- *Maximum (cold-staring up) 1400 mm^2/s*
- *Recommended viscosity range 12-90 mm^2/s*

VISKOSITÄT
- Mindestwert 10 mm^2/s
- Höchstwert (Kaltstart) 1400 mm^2/s
- Empfohlener Viskositätsbereich 12-90 mm^2/s

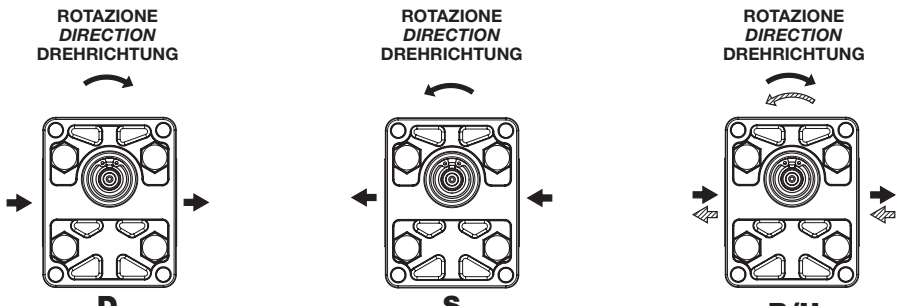
GRADO DI FILTRAZIONE
Le classi di contaminazione consigliate in funzione della pressione di esercizio sono riportate nella tabella seguente.

FILTERING RATIO
The suggested contamination classes based on continuous pressure are listed below.

FILTRATIONSGRAD
Die je nach Betriebsdruck empfohlenen Reinheitsklassen sind in der nachstehenden Tabelle aufgeführt.

Pressione di esercizio • *Continuous pressure* • Betriebsdruck	**>150 bar**	**<150 bar**
Classe di contaminazione • *Contamination class* • Reinheitsklasse ISO4406	**18/15**	**19/16**
Classe di contaminazione • *Contamination class* • Reinheitsklasse NAS 1638	**9**	**10**

DEFINIZIONE DEL VERSO DI ROTAZIONE GUARDANDO L'ALBERO DI TRASCINAMENTO
DEFINITION OF ROTATION LOOKING AT THE DRIVE SHAFT
BESTIMMUNG DER DREHRICHTUNG MIT BLICK AUF DIE ANTRIEBSWELLE

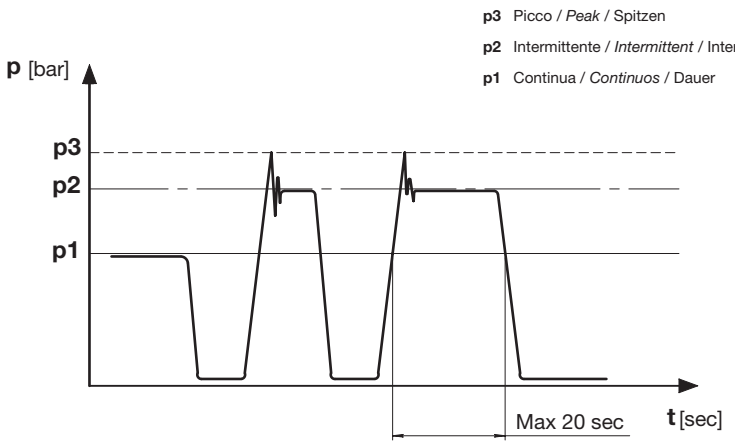


FORMULE INERENTI A POMPE E MOTORI
FORMULAS FOR PUMPS AND MOTORS
FORMELN FÜR PUMPEN UND MOTOREN

POMPA - *PUMP* - PUMPE	**MOTORE - *MOTOR* - MOTOR**
$Q = c \cdot \eta_v \cdot n \cdot 10^{-3}$ *[l/min]*	$Q = \frac{c \cdot n \cdot 10^{-3}}{\eta_v}$ *[l/min]*
$M = \frac{\Delta p \cdot c}{62{,}83 \cdot \eta_m}$ *[Nm]*	$M = \frac{\Delta p \cdot c \cdot \eta_m}{62{,}83}$ *[Nm]*
$P = \frac{\Delta p \cdot c \cdot n}{600 \cdot 1000 \cdot \eta_t}$ *[kW]*	$P = \frac{\Delta p \cdot c \cdot n \cdot \eta_t}{600 \cdot 1000}$ *[kW]*

Q	[l/min]	Portata *Flow rate* Durchfluß	**c**	[cm^3/giro]	Cilindrata *Fördervolumen* Cilindrata	ηv	Rendimento volumetrico *Volumetric efficiency* Volumetrisch Leistungsfähigkeit
M	[Nm]	Coppia *Torque* Drehmoment	**n**	[min^{-1}]	nr.giri *Speed* Drehzahl	ηm	Rendimento meccanico *Mechanical efficiency* Mechanisch Leistungsfähigkeit
P	[kW]	Potenza *Potenza* Potenza	Δp	[bar]	Pressione *Pressure* Druck	$\eta t = \eta v \cdot \eta m$	Rendimento totale *Overall efficiency* Gesamt Leistungsfähigkeit

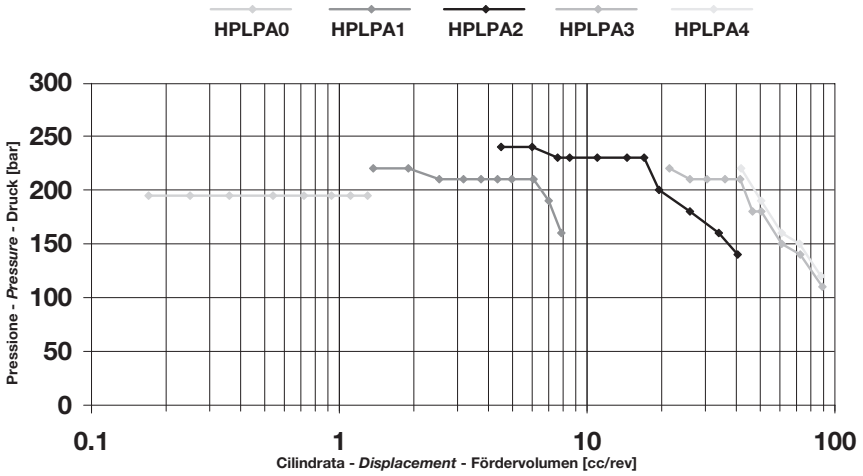
DEFINIZIONE DELLE PRESSIONI
PRESSURE DEFINITION
DRUCKBESTIMMUNGEN



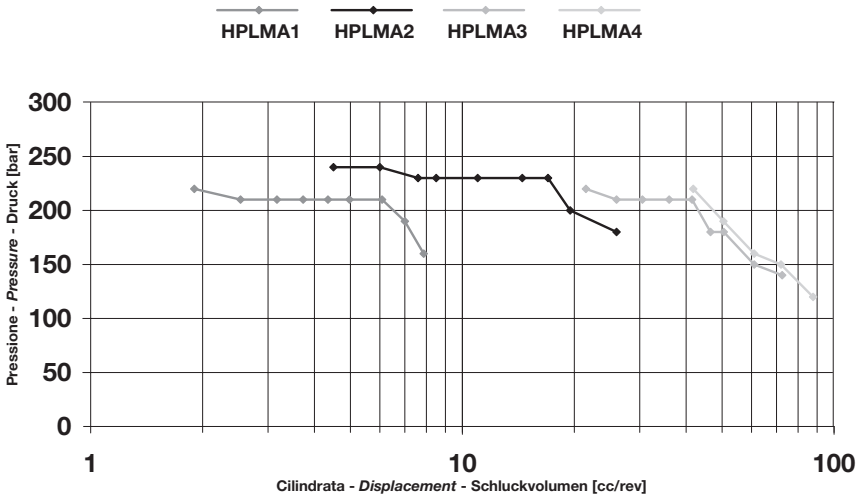
COPPIE DI SERRAGGIO VITI
SCREW TIGHTENING TORQUE
SCHRAUBENANZUGSMOMENT

Codice **Code** **Code**	**Tipo vite** ***Screw type*** **Schraube Typ**	**Coppia min** ***Min Torque*** **Min Drehmomen** **[Nm]**	**Coppia max** ***Max Torque*** **Max Drehmoment** **[Nm]**
HPL..0	M5	5	5.5
HPL..1	M8	20	25
HPL..2	M10	43	45
HPL..3	M10	48	50
HPL..4	M10	48	50

POMPE - *PUMPS* - PUMPEN



MOTORI - *MOTORS* - MOTOREN



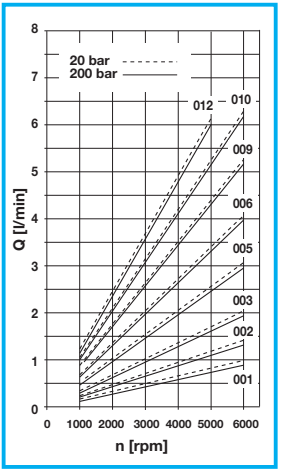
HPL PA0

POMPE AD INGRANAGGI
GEAR PUMPS
ZAHNRADPUMPEN

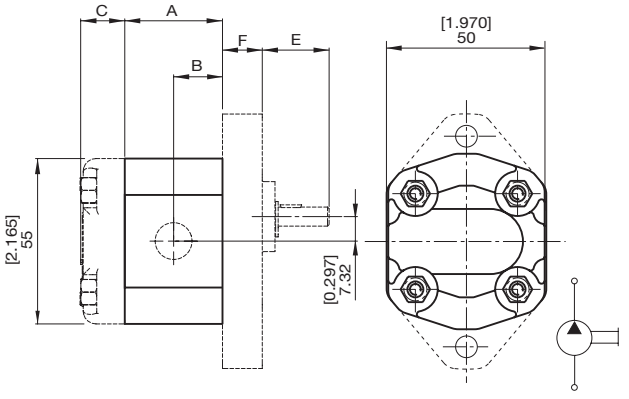
DATI TECNICI • *TECHNICAL DATA* • TECHNISCHE MERKMALE

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN (TM)		PRESSIONE- *PRESSURE* - DRUCK CONTINUA *CONTINUOS* DAUER		INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER		PICCO *PEAK* SPITZEN		VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL MAX	VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL MIN	MASSA *WEIGHT* GEWICHT	
		cm³	in³	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹	Kg	lbs
0	01	0,19	0,01	190	2756	210	3046	230	3336	6000	1000	0,39	0,86
	02	0,26	0,02	190	2756	210	3046	230	3336			0,39	0,86
	03	0,38	0,02	190	2756	210	3046	230	3336			0,40	0,88
	05	0,51	0,03	190	2756	210	3046	230	3336			0,40	0,88
	06	0,64	0,04	190	2756	210	3046	230	3336			0,41	0,90
	09	0,88	0,06	190	2756	210	3046	230	3336			0,42	0,93
	10	1,00	0,07	190	2756	210	3046	230	3336			0,43	0,95
	12	1,25	0,08	190	2756	210	3046	230	3336	5000		0,44	0,97

DIAGRAMMA PORTATE *DIAGRAMS* • KENNLINIEN



POMPE AD INGRANAGGI
GEAR PUMPS
ZAHNRADPUMPEN



C= Vedi sezione coperchi — *C= See cover section* — C= siehe Abschnitt Deckel
F= Vedi sezione flange — *F= See flange section* — F= siehe Abschnitt Flansche
E= Vedi sezione profilo alberi — *E= See splined shafts section* — E= siehe Abschnitt Wellenprofile

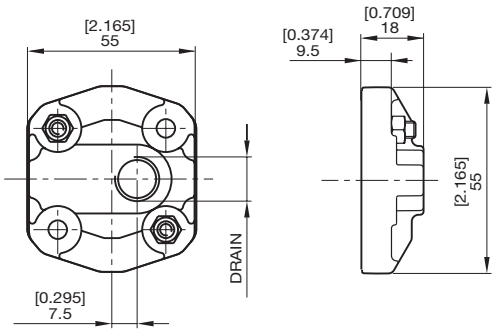
DIMENSIONE • *SIZE* ABMESSUNGEN

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	A		B	
		mm	in	mm	in
0	01	24,0	0,945	12,0	0,472
	02	25,0	0,984	12,5	0,492
	03	27,0	1,063	13,0	0,512
	05	29,0	1,142	14,5	0,571
	06	31,0	1,220	15,5	0,610
	09	36,0	1,417	18,0	0,709
	10	37,0	1,457	18,5	0,728
	12	39,0	1,535	19,5	0,768

COPERCHI
COVERS
DECKEL

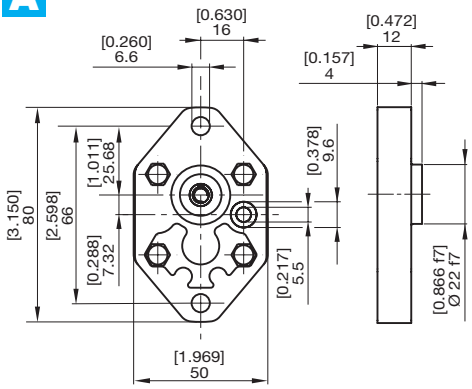
HPL..0

ST

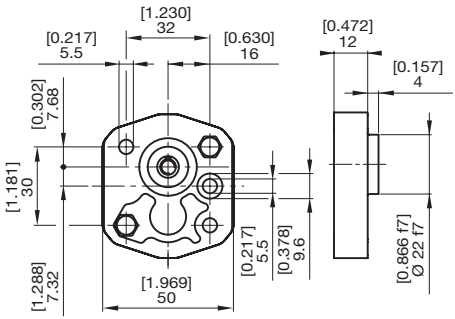


FLANGE
FLANGES
FLANSCHE

A



B

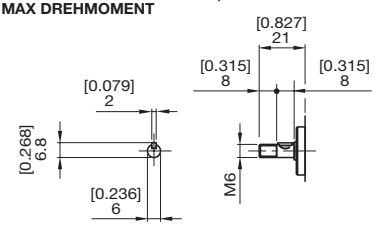


PROFILO ALBERI
SPLINE SHAFTS
WELLENPROFILE

A

COPPIA MAX
MAX TORQUE
MAX DREHMOMENT

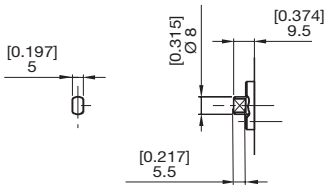
8,5 N•m



B

COPPIA MAX
MAX TORQUE
MAX DREHMOMENT

10 N•m

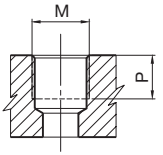


BOCCHE
PORTS
ANSCHLÜSSE

HPL..0

G LATERALE *LATERAL* SEITLICH

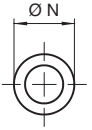
T POSTERIORE *REAR* HINTEN



TIPO *TYPE* TYPE	M	P mm	P in
* **G1**	1/8" GAS BSPP	8	0,31
G2	1/4" GAS BSPP	9	0,35
T2	1/4" GAS BSPP	12	0,47

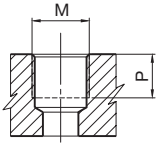
* Drenaggio - *Drain Port* - Lecköl

H ANTERIORE *FRONT* VORNE



TIPO *TYPE* TYPE	FRONTALE *SEAL* FRONTAL	N mm	N in
H0	OR 8,73 x 1,78	9,6	0,38

M LATERALE *LATERAL* SEITLICH



TIPO *TYPE* TYPE	M	P mm	P in
M0	M10x1	9	0,35

COMBINAZIONI
COMBINATIONS
KOMBINATIONEN

FLANGE • *FLANGE* • FLANSCHE

ESTREMITÀ ALBERO *SHAFT PROFIL* WELLENENDE	A	B
A	■	■
B	■	■
BOCCHE *PORTS* ANSCHLÜSSE		
M	■	■
G	■	■
T	■	■
H	■	■

ISTRUZIONI PER L'ORDINAZIONE
ORDERING INSTRUCTIONS
BESTELLANLEITUNG

HPL..0

SERIE
SERIES
SERIE

PRODOTTO
PRODUCT
PRODUKTE

PA - Pompa singola
Single Pump
Einfachpumpe

GRUPPO
GROUP
BAUGRÖSSE

0

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

01 - 0,19
02 - 0,26
03 - 0,38
05 - 0,51
06 - 0,64
09 - 0,88
10 - 1,00
12 - 1,25

SENSO DI ROTAZIONE
ROTATION
DREHRICHTUNG

S - Antioraria/sinistra
Counterclockwise
Linkslauf

D - Oraria/destra
Clockwise
Rechtslauf

B - Bidirezionale drenaggio esterno posteriore
Reversible rear. drain. pont.
reversibel, Lecköl extern, Anschluß hinten

FLANGIA
FLANGE
FLANSCHE

A - Standard
Standard
Standard

B - Quadrata
Square
quadratisch

ESTREMITÀ D'ALBERO
SHAFT PROFIL
WELLENENDE

A - Cilindrico Ø6
Parallel shaft Ø6
zylindrisch Ø6

B - Dente frontale
Tang drive
Profil

BOCCHE STANDARD
STANDARD PORT
STANDARD ANSCHLÜSSE

01...03	*05...06*	*09...12*	*DRAIN*
M0M0	M0M0	-	G1
-	G2G2	G2G2	G1
T2H0	T2H0	T2H0	-
M0H0	M0H0	-	-
-	G2H0	G2H0	-

GUARNIZIONI
SEALS
DICHTUNGEN

B - NBR
V - Viton

COPERCHI
COVERS
DECKEL

ST - Standard
Standard
Standard

HPL ..1

POMPE E MOTORI AD INGRANAGGI
GEAR PUMPS AND MOTORS
ZAHNRADPUMPEN UND -MOTOREN

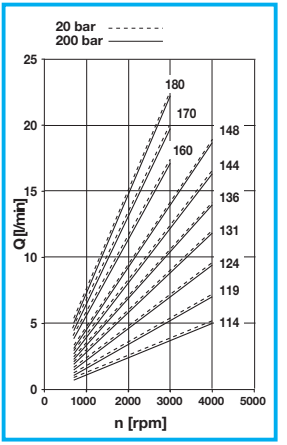
HPL PA1

POMPE AD INGRANAGGI
GEAR PUMPS
ZAHNRADPUMPEN

DATI TECNICI • *TECHNICAL DATA* • TECHNISCHE MERKMALE

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN (TM)		PRESSIONE- *PRESSURE* - DRUCK						VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL		MASSA *WEIGHT* GEWICHT	
				CONTINUA *CONTINUOS* DAUER		INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER		PICCO *PEAK* SPITZEN		MAX	MIN		
		cm³	in³	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹	Kg	lbs
1	14	1,37	0,08	220	3191	260	3771	280	4061	4000	700	0,90	1,98
	19	1,90	0,12	220	3191	260	3771	280	4061			0,95	2,09
	24	2,53	0,15	210	3046	250	3626	260	3771			0,95	2,09
	31	3,17	0,19	210	3046	250	3626	260	3771			0,95	2,09
	36	3,73	0,23	210	3046	250	3626	260	3771			1,05	2,31
	44	4,35	0,27	210	3046	250	3626	260	3771			1,05	2,31
	48	4,97	0,30	210	3046	250	3626	260	3771			1,05	2,31
	60	6,08	0,37	210	3046	250	3626	260	3771	3000		1,20	2,65
	70	7,00	0,43	190	2756	210	3046	230	3336			1,20	2,65
	80	7,87	0,48	160	2321	180	2611	200	2901			1,20	2,65

DIAGRAMMA PORTATE *DIAGRAMS* • KENNLINIEN



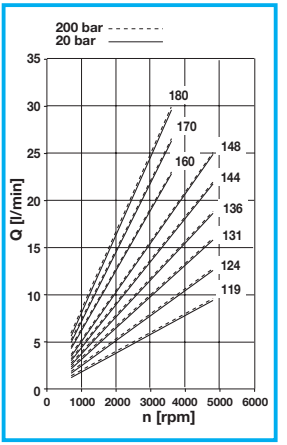
HPL MA1

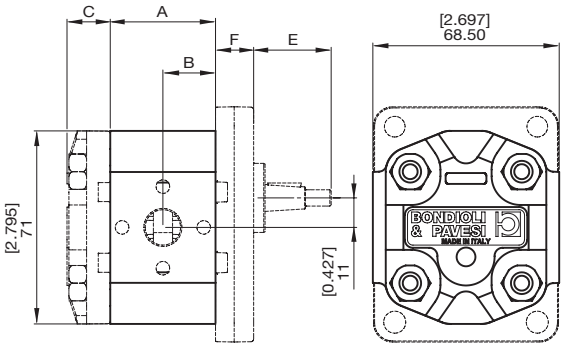
MOTORI AD INGRANAGGI
GEAR MOTORS
ZAHNRADMOTOREN

DATI TECNICI • *TECHNICAL DATA* • TECHNISCHE MERKMALE

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN (TM)		PRESSIONE- *PRESSURE* - DRUCK						VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL		MASSA *WEIGHT* GEWICHT	
				CONTINUA *CONTINUOS* DAUER		INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER		PICCO *PEAK* SPITZEN		MAX	MIN		
		cm³	in³	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹	Kg	lbs
1	19	1,90	0,12	220	3191	260	3771	280	4061	4800	700	0,95	2,09
	24	2,53	0,15	210	3046	250	3626	260	3771			0,95	2,09
	31	3,17	0,19	210	3046	250	3626	260	3771			0,95	2,09
	36	3,73	0,23	210	3046	250	3626	260	3771			1,05	2,31
	44	4,35	0,27	210	3046	250	3626	260	3771			1,05	2,31
	48	4,97	0,30	210	3046	250	3626	260	3771			1,05	2,31
	60	6,08	0,37	210	3046	250	3626	260	3771	3600		1,20	2,65
	70	7,00	0,43	190	2756	210	3046	230	3336			1,20	2,65
	80	7,87	0,48	160	2321	180	2611	200	2901			1,20	2,65

DIAGRAMMA PORTATE *DIAGRAMS* • KENNLINIEN





C= Vedi sezione coperchi
F= Vedi sezione flange
E= Vedi sezione profilo alberi

C= See cover section
F= See flange section
E= See splined shafts section

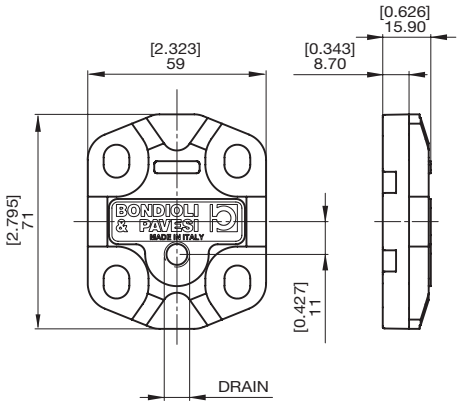
C= siehe Abschnitt Deckel
F= siehe Abschnitt Flansche
E= siehe Abschnitt Wellenprofil

**DIMENSIONE • *SIZE*
ABMESSUNGEN**

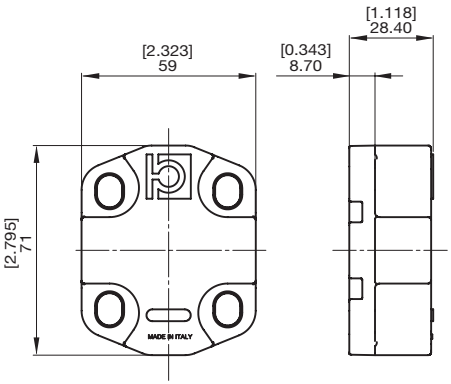
GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	A		B	
		mm	in	mm	in
1	14	38,7	1,524	19,4	0,762
	19	38,7	1,524	19,4	0,762
	24	38,7	1,524	19,4	0,762
	31	38,7	1,524	19,4	0,762
	36	45,35	1,785	22,7	0,893
	44	45,35	1,785	22,7	0,893
	48	45,35	1,785	22,7	0,893
	60	56,05	2,207	28,0	1,103
	70	56,05	2,207	28,0	1,103
	80	56,05	2,207	28,0	1,103

COPERCHI
COVERS
DECKEL

ST



V..

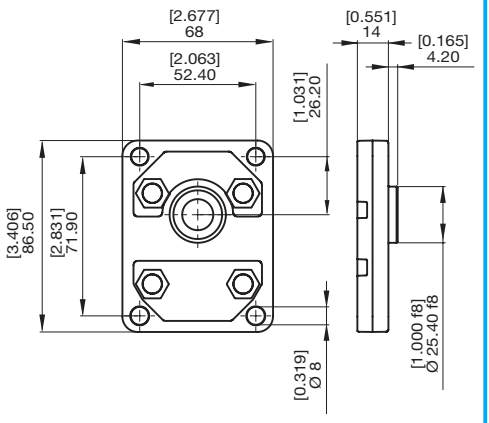


Per bocche posteriori e valvole integrate
For rear ports and integrated valves
Für hintere Anschlüsse und integrierte Ventile

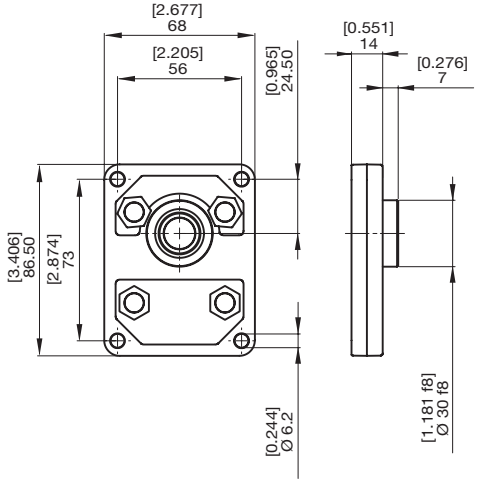
FLANGE
FLANGES
FLANSCHE

HPL..1

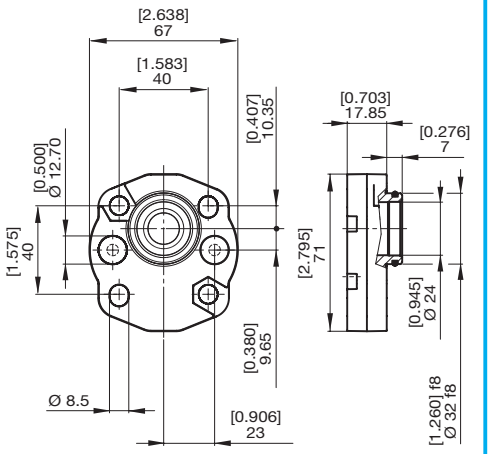
D



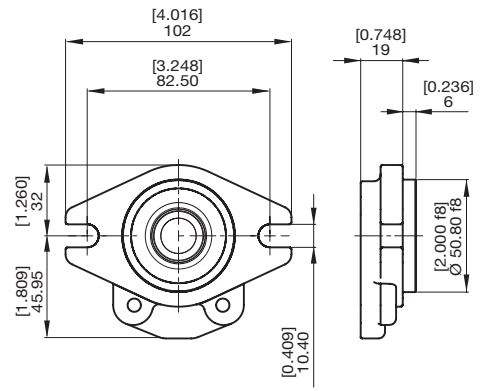
E



G



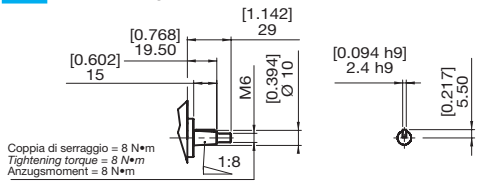
J



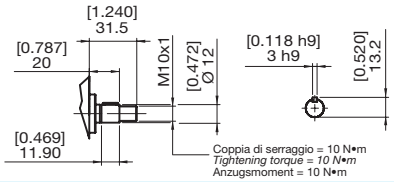
PROFILO ALBERI
SPLINE SHAFTS
WELLENPROFILE

HPL..1

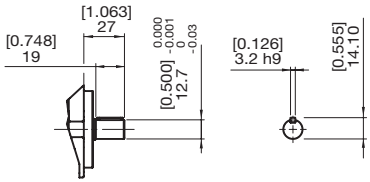
D
COPPIA MAX **25 N•m**
MAX TORQUE
MAX DREHMOMENT



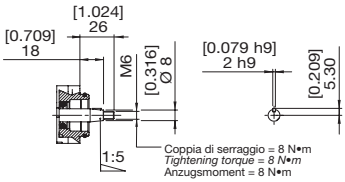
E
COPPIA MAX **15 N•m**
MAX TORQUE
MAX DREHMOMENT



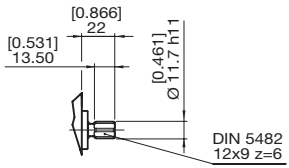
F
COPPIA MAX **35 N•m**
MAX TORQUE
MAX DREHMOMENT



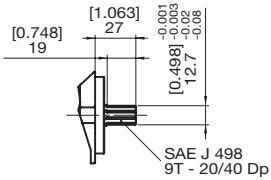
G
COPPIA MAX **25 N•m**
MAX TORQUE
MAX DREHMOMENT



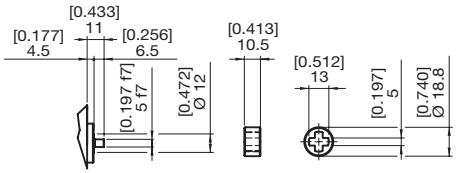
H
COPPIA MAX **30 N•m**
MAX TORQUE
MAX DREHMOMENT



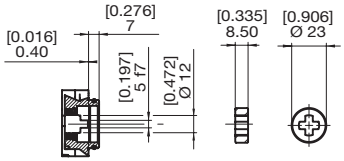
I
COPPIA MAX **45 N•m**
MAX TORQUE
MAX DREHMOMENT



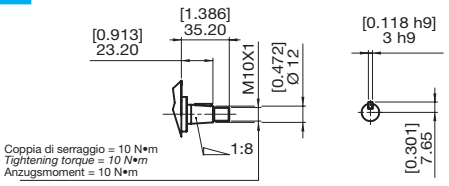
J
COPPIA MAX **20 N•m**
MAX TORQUE
MAX DREHMOMENT



K
COPPIA MAX **20 N•m**
MAX TORQUE
MAX DREHMOMENT



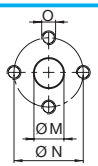
T
COPPIA MAX **60 N•m**
MAX TORQUE
MAX DREHMOMENT



BOCCHE
PORTS
ANSCHLÜSSE

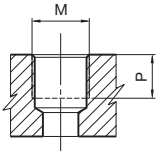
HPL..1

E — LATERALE / *LATERAL* / SEITLICH



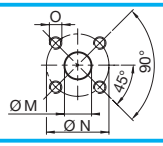
TIPO *TYPE* TYPE	M mm	M in	N mm	N in	O
E2	13	0,51	26	1,02	M5
E3	13	0,51	30	1,18	M6

G — LATERALE / *LATERAL* / SEITLICH
T — POSTERIORE / *REAR* / HINTEN



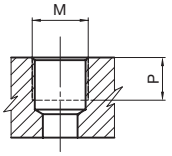
TIPO *TYPE* TYPE	M	P mm	P in
*G2	1/4" GAS BSPP	12	0,47
G3	3/8" GAS BSPP	12	0,47
G4	1/2" GAS BSPP	14,5	0,57
T3	3/8" GAS BSPP	12	0,47
T4	1/2" GAS BSPP	14,5	0,57

X — LATERALE / *LATERAL* / SEITLICH



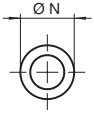
TIPO *TYPE* TYPE	M mm	M in	N mm	N in	O
X3	13	0,51	30	1,18	M6

M — LATERALE / *LATERAL* / SEITLICH



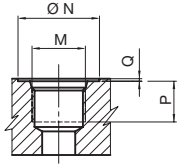
TIPO *TYPE* TYPE	M	P mm	P in
*M1	M12x1,5	12	0,47
M2	M14x1,5	12	0,47
M4	M18x1,5	16	0,63

H — ANTERIORE / *FRONT* / VORNE



TIPO *TYPE* TYPE	FRONTALE *SEAL* FRONTAL	N mm	N in
H1	OR 9,25 x 1,78	12,7	0,50

U — LATERALE / *LATERAL* / SEITLICH
C — POSTERIORE / *REAR* / HINTEN



TIPO *TYPE* TYPE	DIMENSIONE *SIZE* GROSSE	N mm	N in	P mm	P in	Q		M
*U2	1/4"	21	0,83	12	0,47	0,3	0,01	7/16-20 UNF
U3	3/8"	25	0,98	13	0,51	0,3	0,01	9/16-18 UNF
U4	1/2"	30	1,18	15	0,59	0,3	0,01	3/4-16 UNF
C3	3/8"	25	0,98	13	0,51	0,3	0,01	9/16-18 UNF
C4	1/2"	30	1,18	15	0,59	0,3	0,01	3/4-16 UNF

* Drenaggio - *Drain Port* - Lecköl

COMBINAZIONI
COMBINATIONS
KOMBINATIONEN

HPL..1

FLANGE • *FLANGE* • FLANSCHE

ESTREMITÀ ALBERO *SHAFT PROFIL* WELLENENDE	D	E	G	J
D	■	■		
E	■	■		
F				■
G			■	
H	■			
I				■
J	■		[0.256] 6.5 [0.472] 12	
K			■	
T	■	■		

BOCCHE *PORTS* ANSCHLÜSSE				
E	■	■		
G	■	■	■	■
X	■	■		
M			■	
T			■	
H			■	
U				■
C				■

ISTRUZIONI PER L'ORDINAZIONE
ORDERING INSTRUCTIONS
BESTELLANLEITUNG

HPL..1

HPL	PA	1	36	D	D	E	E3 E3	B	ST	..

SERIE
SERIES
SERIE

PRODOTTO
PRODUCT
PRODUKTE

MA - Motore
PA - Pompa singola
PT - Pompa predisposta

MA *- Motor*
PA *- Pump*
PT *- Adapted Pump*

MA - Motor
PA - Pumpe
PT - Vorbereitete Pumpe

GRUPPO
GROUP
BAUGRÖSSE

1

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

14 - 1,37
19 - 1,90
24 - 2,53
31 - 3,17
36 - 3,73
44 - 4,35
48 - 4,97
60 - 6,08
70 - 7,00
80 - 7,87

SENSO DI ROTAZIONE
ROTATION
DREHRICHTUNG

S - Antioraria/sinistra
Counterclockwise
Linkslauf

D - Oraria/destra
Clockwise
Rechtslauf

H - Bidirezionale drenaggio interno
Reversible ind drain.
reversibel, Lecköl intern, Anschluß seitlich

B - Bidirezionale drenaggio esterno posteriore
Reversible rear. drain. pont.
reversibel, Lecköl extern, Anschluß hinten

FLANGIA ANTERIORE
FRONT FLANGE
VORDERER FLANSCH

D - Europea D 25,4
E - Europea D 30
G - Tedesca con OR
J - SAE AA

D *- European standard*
E *- European Ø 30*
G *- German wih OR*
J *- SAE AA*

D - EU-Norm.D 95,5
E - EU-Norm.D 30
G - DIN-Norm.(mit O.R. Dichtung)
J - SAE AA

SET VALVOLE
VALVE SETTING
VENTILEINSTELLUNG
(bar)

COPERCHI - *COVERS* - DECKELN

ST - Standard
V.. - Con valvole
(Vedi sez. valvole)
With valves
(See valves section)
Mit Ventilen
(siehe Abschnitt Ventile)

GUARNIZIONI - *SEALS* - DICHTUNGEN

B - NBR
R - NBR alte pres. (25 bar)
high pres. (25 bar)
Hochdruck (25 bar)
V - Viton
W - Viton alte pres. (25 bar)
For high pres. (25 bar)
Hochdruck (25 bar)

BOCCHE STD - *STANDARD PORT* - STANDARD ANSCHLÜSSE
CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

1,4.....4,8 Pompe - *Pumps* Pumpen IN/OUT	*6.....8* Pompe - *Pumps* Pumpen IN/OUT	DRAIN	*1,4.....4,8* Pompe - *Pumps* Pumpen IN/OUT	*6.....8* Pompe - *Pumps* Pumpen IN/OUT	DRAIN
E3 E3	E3 E3	M1	U3 U3	U4 U4	U2
G3 G3	G4 G4	G2	T3 H1	T3 H1	-
X3 X3	X3 X3	M1	T3 T3	T4 T3	G2
M4 M2	M4 M2	M1	C3 C3	C4 C3	U2

MOTORI - *MOTORS* - MOTOREN OUT/IN

ESTREMITÀ D'ALBERO
SHAFT PROFIL
WELLENENDE

D - Conico (1:8)
E - Cilindrico europeo
F - Cilindrico SAE "AA"
G - Conico (1:5)
H - Scanalato 12x9
I - Scanalato SAE "AA"
J - Dente frontale sporgente
K - Dente frontale
T* - Conico high torque (1:8)

D *- Tapered (1:8)*
E *- European parallel shaft*
F *- SAE "AA" parallel shaft*
G *- Tapered (1:5)*
H *- Splined 12x9*
I *- SAE "AA" splined*
J *- Front tooth*
K *- Tang drive*
T* *- Tapered high torque (1:8)*

D - Kegel (1:8)
E - zylindrisch (E-norm)
F - zylindrisch SAE "AA"
G - Kegel (1:5)
H - Keilwelle 12x9
I - Keilwelle SAE "AA"
J - Vorstehendes Kreuzprofil
K - Kreuzprofil
T* - verstärkter Kegel (1:8)

* Per le cilindrate disponibili rivolgersi all'ufficio tecnico- *Contact tecnichal office for available displacements* - Für die erhältlichen Fördervolumina sich an die technische Abteilung wenden

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HPL ..2

POMPE E MOTORI AD INGRANAGGI
GEAR PUMPS AND MOTORS
ZAHNRADPUMPEN UND -MOTOREN

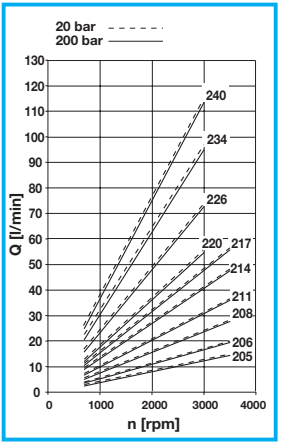
HPL PA2

POMPE AD INGRANAGGI
GEAR PUMPS
ZAHNRADPUMPEN

DATI TECNICI • *TECHNICAL DATA* • TECHNISCHE MERKMALE

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN (TM)		PRESSIONE- *PRESSURE* - DRUCK						VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL		MASSA *WEIGHT* GEWICHT	
				CONTINUA *CONTINUOS* DAUER		INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER		PICCO *PEAK* SPITZEN		MAX	MIN		
		cm³	in³	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹	Kg	lbs
2	05	4,50	0,27	240	3481	260	3771	300	4351	3500	700	2,30	5,07
	06	6,00	0,37	240	3481	260	3771	300	4351			2,40	5,29
	08	8,50	0,52	230	3336	250	3626	280	4061			2,40	5,29
	11	11,00	0,67	230	3336	250	3626	280	4061			2,40	5,29
	14	14,50	0,88	230	3336	250	3626	280	4061			2,80	6,17
	17	17,00	1,04	230	3336	250	3626	280	4061			2,80	6,17
	20	19,50	1,19	200	2901	220	3191	250	3626			2,80	6,17
	26	26,00	1,59	180	2611	190	2756	210	3046	3000		3,10	6,83
	34	34,00	2,07	160	2321	170	2466	190	2756			3,40	7,50
	40	40,50	2,47	140	2031	160	2321	180	2611			3,60	7,94

DIAGRAMMA PORTATE *DIAGRAMS* • KENNLINIEN



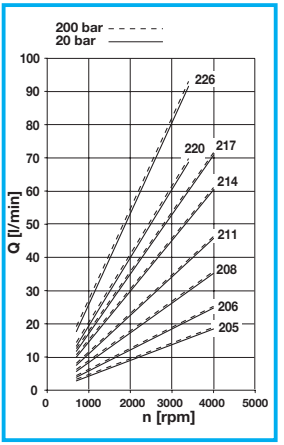
HPL MA2

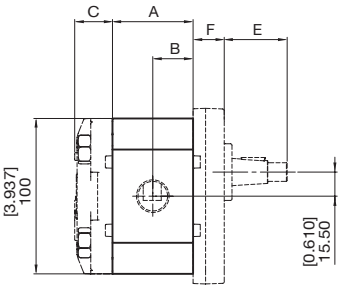
MOTORI AD INGRANAGGI
GEAR MOTORS
ZAHNRADMOTOREN

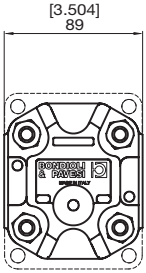
DATI TECNICI • *TECHNICAL DATA* • TECHNISCHE MERKMALE

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN (TM)		PRESSIONE- *PRESSURE* - DRUCK						VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL		MASSA *WEIGHT* GEWICHT	
				CONTINUA *CONTINUOS* DAUER		INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER		PICCO *PEAK* SPITZEN		MAX	MIN		
		cm³	in³	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹	Kg	lbs
2	05	4,50	0,27	240	3481	260	3771	300	4351	4000	700	2,30	5,07
	06	6,00	0,37	240	3481	260	3771	300	4351			2,40	5,29
	08	8,50	0,52	230	3336	250	3626	280	4061			2,40	5,29
	11	11,00	0,67	230	3336	250	3626	280	4061			2,40	5,29
	14	14,50	0,88	230	3336	250	3626	280	4061			2,80	6,17
	17	17,00	1,04	230	3336	250	3626	280	4061			2,80	6,17
	20	19,50	1,19	200	2901	220	3191	250	3626			2,80	6,17
	26	26,00	1,59	180	2611	190	2756	210	3046	3400		3,10	6,83

DIAGRAMMA PORTATE *DIAGRAMS* • KENNLINIEN







C= Vedi sezione coperchi
F= Vedi sezione flange
E= Vedi sezione profilo alberi

C= See cover section
F= See flange section
E= See splined shafts section

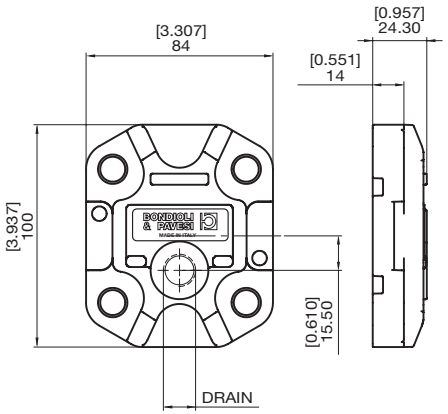
C= siehe Abschnitt Deckel
F= siehe Abschnitt Flansche
E= siehe Abschnitt Wellenprofil

DIMENSIONE • *SIZE*
ABMESSUNGEN

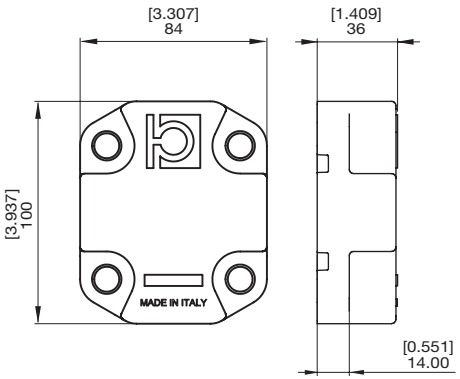
GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	A		B	
		mm	in	mm	in
2	05	49,15	1,935	24,6	0,968
	06	51,85	2,041	25,9	1,021
	08	56,35	2,219	28,2	1,109
	11	60,85	2,396	30,4	1,198
	14	67,25	2,648	33,6	1,324
	17	71,75	2,825	35,9	1,412
	20	76,25	3,002	38,1	1,501
	26	88,55	3,486	44,3	1,743
	34	102,55	4,037	51,3	2,019
	40	115,07	4,530	57,5	2,265

COPERCHI
COVERS
DECKEL

ST



V..

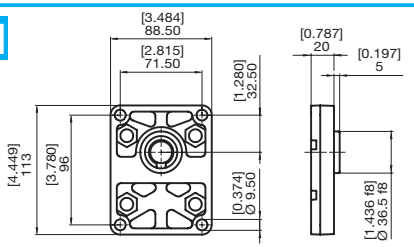


Per bocche posteriori e valvole integrate
For rear ports and integrated valves
Für hintere Anschlüsse und integrierte Ventile

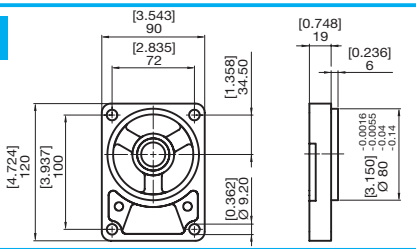
FLANGE
FLANGES
FLANSCHE

HPL..2

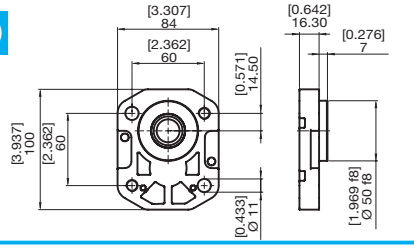
M



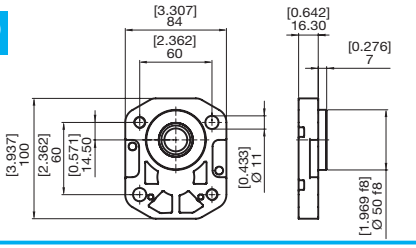
N



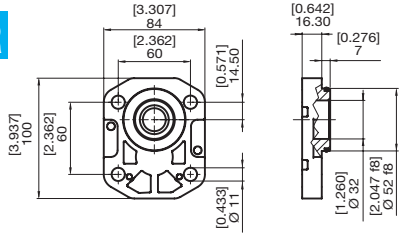
O



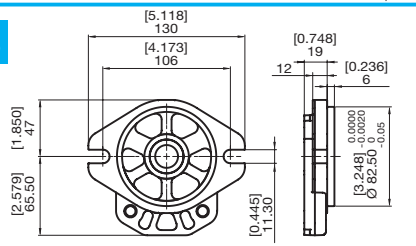
P



R

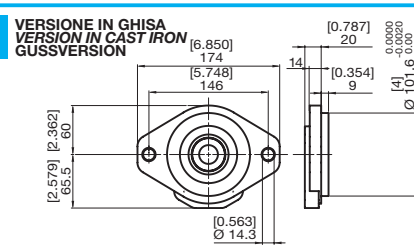


S



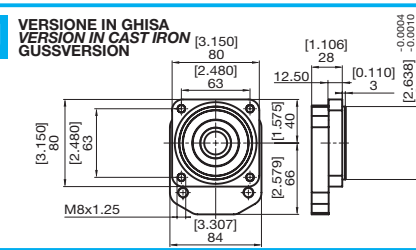
T

VERSIONE IN GHISA
VERSION IN CAST IRON
GUSSVERSION



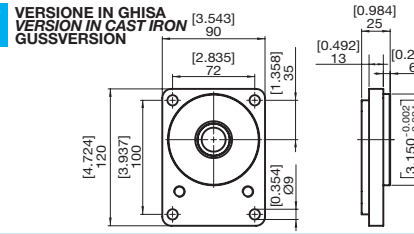
U

VERSIONE IN GHISA
VERSION IN CAST IRON
GUSSVERSION



V

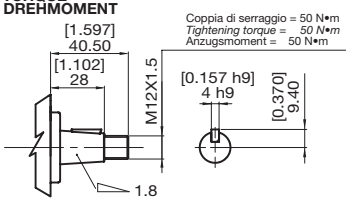
VERSIONE IN GHISA
VERSION IN CAST IRON
GUSSVERSION



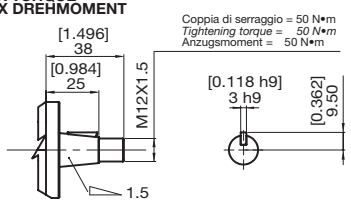
PROFILO ALBERI
SPLINE SHAFTS
WELLENPROFILE

HPL..2

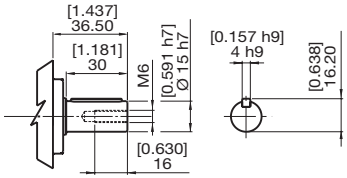
L
COPPIA MAX **140 N•m**
MAX TORQUE
MAX DREHMOMENT



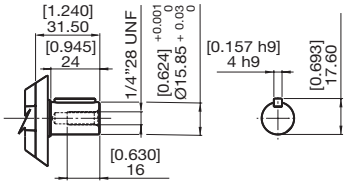
M
COPPIA MAX **120 N•m**
MAX TORQUE
MAX DREHMOMENT



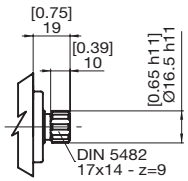
N
COPPIA MAX **65 N•m**
MAX TORQUE
MAX DREHMOMENT



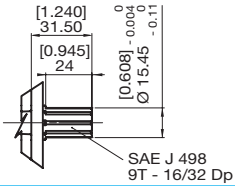
P
COPPIA MAX **70 N•m**
MAX TORQUE
MAX DREHMOMENT



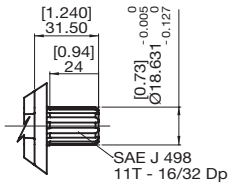
U
COPPIA MAX **110 N•m**
MAX TORQUE
MAX DREHMOMENT



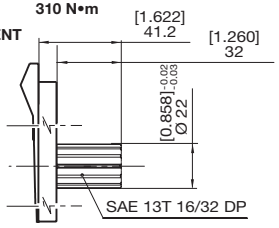
V
COPPIA MAX **90 N•m**
MAX TORQUE
MAX DREHMOMENT



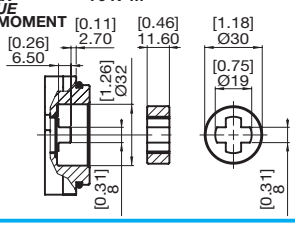
X
COPPIA MAX **160 N•m**
MAX TORQUE
MAX DREHMOMENT



Y
COPPIA MAX **310 N•m**
MAX TORQUE
MAX DREHMOMENT



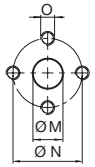
Z
COPPIA MAX **70 N•m**
MAX TORQUE
MAX DREHMOMENT



BOCCHE
PORTS
ANSCHLÜSSE

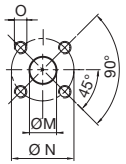
HPL..2

E **LATERALE** ***LATERAL*** **SEITLICH**



TIPO *TYPE* TYPE	M mm	M in	N mm	N in	O
E3	13	0,51	30	1,18	M6
E5	20	0,79	40	1,57	M8

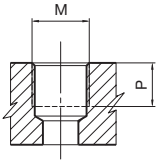
X **LATERALE** ***LATERAL*** **SEITLICH**



TIPO *TYPE* TYPE	M mm	M in	N mm	N in	O
X4	15	0,59	35	1,38	M6
X5	15	0,59	40	1,57	M6
X6	20	0,79	40	1,57	M6

G **LATERALE** ***LATERAL*** **SEITLICH**

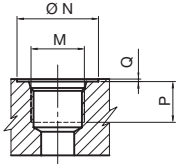
T **POSTERIORE** ***REAR*** **HINTEN**



TIPO *TYPE* TYPE	M	P mm	P in
***G3**	3/8" GAS BSPP	12	0,47
G4	1/2" GAS BSPP	16	0,63
G6	3/4" GAS BSPP	19	0,75
T4	1/2" GAS BSPP	16	0,63
T6	3/4" GAS BSPP	19	0,75

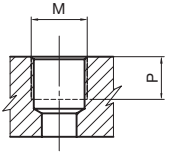
U **LATERALE** ***LATERAL*** **SEITLICH**

C **POSTERIORE** ***REAR*** **HINTEN**



TIPO *TYPE* TYPE	DIMENSIONE *SIZE* GRÖSSE	N mm	N in	P mm	P in	Q		M
***U3**	3/8"	25	0,98	13	0,51	0,3	0,01	9/16-18 UNF
U5	5/8"	34	1,34	17	0,67	0,3	0,01	7/8-14 UNF
U6	3/4"	41	1,61	19	0,75	0,3	0,01	1-1/16-12 UNF
C5	5/8"	34	1,34	17	0,67	0,3	0,01	7/8-14 UNF
C6	3/4"	41	1,61	19	0,75	0,3	0,01	1-1/16-12 UNF

M



TIPO *TYPE* TYPE	M	P mm	P in
***M2**	M14x1,5	12	0,47

* Drenaggio - *Drain Port* - Lecköl

COMBINAZIONI
COMBINATIONS
KOMBINATIONEN

ESTREMITÀ ALBERO *SHAFT PROFIL* WELLENENDE	FLANGE • *FLANGE* • FLANSCHE						
	M	**N** **V**	**O** **P**	**R**	**S**	**T**	**U**
L	■						
M		■	1.602 40.70				
N	■						
P					■		
U	■	0.925 23.50	1.031 26.20				
V					■		
X					■		
Y						■	
Z				■			0.394 10 / 0.126 3.2
BOCCHE *PORTS* **ANSCHLÜSSE**							
E	■						
G	■				■	■	
X		■	■	■			■
U					■	■	
C					■	■	
T	■	■	■	■	■	■	■

ISTRUZIONI PER L'ORDINAZIONE
ORDERING INSTRUCTIONS
BESTELLANLEITUNG

HPL..2

HPL	PA	2	11	D	M	L	G4 G4	B	ST	--

SERIE
SERIES
SERIE

PRODOTTO
PRODUCT
PRODUKTE

MA - Motore
PA - Pompa singola
PT - Pompa predisposta

MA *- Motor*
PA *- Pump*
PT *- Adapted Pump*

MA - Motor
PA - Pumpe
PT - Vorbereitete Pumpe

GRUPPO
GROUP
BAUGRÖSSE

2

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

05 - 4,50
06 - 6,00
08 - 8,50
11 - 11,00
14 - 14,50
17 - 17,00
20 - 19,50
26 - 26,00
34 - 34,00
40 - 40,50

SENSO DI ROTAZIONE
ROTATION
DREHRICHTUNG

S - Antioraria/sinistra
Counterclockwise
Linkslauf

D - Oraria/destra
Clockwise
Rechtslauf

H - Bidirezionale drenaggio interno
Reversible ind drain.
reversibel, Lecköl intern, Anschluß seitlich

B - Bidirezionale drenaggio esterno posteriore
Reversible rear. drain. pont.
reversibel, Lecköl extern, Anschluß hinten

FLANGIA ANTERIORE
FRONT FLANGE
VORDERER FLANSCH

M - Europea
N - Tedesca
O - Tedesca D 50 2 fori DX
P - Tedesca D 50 2 fori SX
R - Tedesca D 52
S - SAE A 2 fori
T - SAE B 2 fori
U - Perkins
V -Tedesca in ghisa

M *- European*
N *- German*
O *- German D 50 2 holes right*
P *- German D 50 2 holes left*
R *- German D 52*
S *- SAE A 2 holes*
T *- SAE B 2 holes*
U *- Perkins*
V *-German cast iron*

M - EU-Norm
N - DIN-Norm
O - DIN-Norm D 50 Bohrungen rechts
P - DIN-Norm D 50 Bohrungen links
R - DIN-Norm D 52
S - SAE A 2 Bohrungen
T - SAE B 2 Bohrungen
U - Perkins
V - Din gussversion

ESTREMITÀ D'ALBERO
SHAFT PROFIL
WELLENENDE

L - Conico (1:8)
M - Conico (1:5)
N - Cilindrico D15 europeo
P - Cilindrico SAE "A"
U - Scanalato DIN 5482
V - Scanalato SAE "A" 9T
X - Scanalato SAE "A" 11T
Y* - Scanalato SAE "B" 13T
Z - Dente frontale

L *- Tapered (1:8)*
M *- Tapered (1:5)*
N *- D15 European parallel shaft*
P *- SAE "A" parallel shaft*
U *- DIN 5482 splined*
V *- SAE "A" 9T splined*
X *- SAE "A" 11T splined*
Y* *- SAE "B" 13T splined*
Z *- Tang drive*

L - Kegel (1:8)
M - Kegel (1:5)
N - zylindrisch (E-norm)
P - zylindrisch SAE "A"
U - Keilwelle DIN 5482
V - Keilwelle SAE "A" 9T
X - Keilwelle SAE "A" 11T
Y* - Keilwelle SAE "B" 13T
Z - Kreuzprofil

SET VALVOLE
VALVE SETTING
VENTILEINSTELLUNG
(bar)

COPERCHI - *COVERS* - DECKEL

ST -Standard
V.. -Con valvole
(Vedi sez. valvole)
With valves
(See valves section)
Mit Ventilen
(siehe Abschnitt Ventile)

GUARNIZIONI - *SEALS* - DICHTUNGEN

B - NBR
R - NBR alte pres. (25 bar)
high pres. (25 bar)
Hochdruck (25 bar)
V - Viton
W - Viton alte pres. (25 bar)
high pres. (25 bar)
Hochdruck (25 bar)

BOCCHE STD - *STANDARD PORT* - STANDARD ANSCHLÜSSE
CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

5.....8	*11*	*14.....20*	*26.....40*	
Pompe - *Pumps* -Pumpen IN/OUT		Pompe - *Pumps* -Pumpen IN/OUT	Pompe - *Pumps* -Pumpen IN/OUT	DRAIN
E3 E3		E5 E3	E5 E5	M2
G4 G4		G6 G4	G6 G6	G3
X5 X4	X6 X4	X6 X4	X6 X5	M2
U6 U5		U6 U5	U6 U5	U3
C6 C5		C6 C5	C6 C5	U3
T6 T4		T6 T4	T6 T4	G3

MOTORI - *MOTORS* - MOTOREN OUT/IN
MOTORI BIDIR. IN=OUT - *REVERS. MOTORS IN=OUT* - BIDIREK.MOTOREN IN=OUT

* Per le cilindrate disponibili rivolgersi all'ufficio tecnico- *Contact tecnichal office for available displacements* - Für die erhältlichen Fördervolumina sich an die technische Abteilung wenden

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HPL ..3

POMPE E MOTORI AD INGRANAGGI
GEAR PUMPS AND MOTORS
ZAHNRADPUMPEN UND -MOTOREN

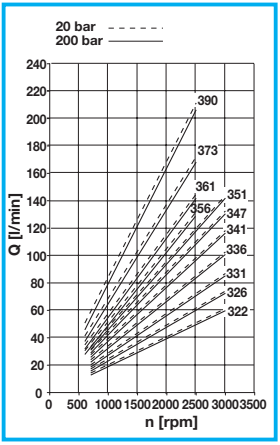
HPL PA3

POMPE AD INGRANAGGI
GEAR PUMPS
ZAHNRADPUMPEN

DATI TECNICI • *TECHNICAL DATA* • TECHNISCHE MERKMALE

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN (TM)		PRESSIONE- *PRESSURE* - DRUCK						VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL		MASSA *WEIGHT* GEWICHT	
				CONTINUA *CONTINUOS* DAUER		INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER		PICCO *PEAK* SPITZEN		MAX	MIN		
		cm³	in³	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹	Kg	lbs
3	22	21,50	1,31	220	3191	250	3626	310	4496	3000	700	6,20	13,67
	26	26,00	1,59	210	3046	250	3626	300	4351			6,20	13,67
	31	30,50	1,86	210	3046	250	3626	280	4061			6,20	13,67
	36	36,00	2,20	210	3046	250	3626	280	4061			6,50	14,33
	41	41,50	2,53	210	3046	250	3626	280	4061			7,20	15,87
	47	46,50	2,84	180	2611	210	3046	270	3916			7,20	15,87
	51	50,50	3,08	180	2611	210	3046	270	3916			7,20	15,87
	56	56,00	3,42	170	2466	200	2901	230	3336	2500	600	7,40	16,31
	61	61,00	3,72	150	2176	180	2611	200	2901			7,60	16,76
	73	72,50	4,42	140	2031	150	2176	180	2611			8,00	17,64
	90	89,00	5,43	110	1595	120	1740	170	2466			8,60	18,96

DIAGRAMMA PORTATE *DIAGRAMS* • KENNLINIEN



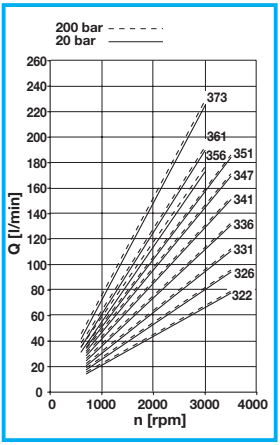
HPL MA3

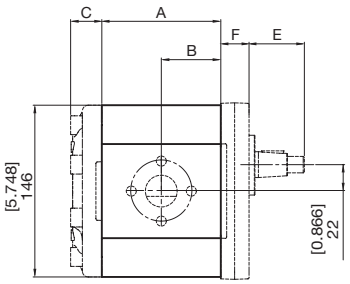
MOTORI AD INGRANAGGI
GEAR MOTORS
ZAHNRADMOTOREN

DATI TECNICI • *TECHNICAL DATA* • TECHNISCHE MERKMALE

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN (TM)		PRESSIONE- *PRESSURE* - DRUCK						VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL		MASSA *WEIGHT* GEWICHT	
				CONTINUA *CONTINUOS* DAUER		INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER		PICCO *PEAK* SPITZEN		MAX	MIN		
		cm³	in³	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹	Kg	lbs
3	22	21,50	1,31	220	3191	250	3626	310	4496	3500	700	6,20	13,67
	26	26,00	1,59	210	3046	250	3626	300	4351			6,20	13,67
	31	30,50	1,86	210	3046	250	3626	280	4061			6,20	13,67
	36	36,00	2,20	210	3046	250	3626	280	4061			6,50	14,33
	41	41,50	2,53	210	3046	250	3626	280	4061			7,20	15,87
	47	46,50	2,84	180	2611	210	3046	270	3916			7,20	15,87
	51	50,50	3,08	180	2611	210	3046	270	3916			7,20	15,87
	56	56,00	3,42	170	2466	200	2901	230	3336	3000	600	7,40	16,31
	61	61,00	3,72	150	2176	180	2611	200	2901			7,60	16,76
	73	72,50	4,42	140	2031	150	2176	180	2611			8,00	17,64

DIAGRAMMA PORTATE *DIAGRAMS* • KENNLINIEN





C= Vedi sezione coperchi
F= Vedi sezione flange
E= Vedi sezione profilo alberi

C= See cover section
F= See flange section
E= See splined shafts section

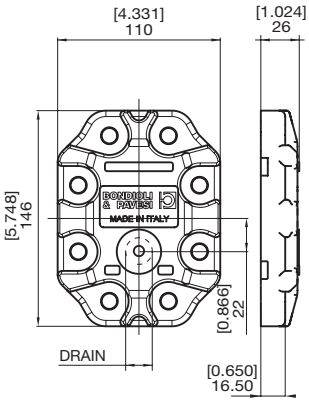
C= siehe Abschnitt Deckel
F= siehe Abschnitt Flansche
E= siehe Abschnitt Wellenprofil

DIMENSIONE • *SIZE*
ABMESSUNGEN

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	A		B	
		mm	in	mm	in
3	22	81,07	3,192	40,5	1,594
	26	84,07	3,310	42,0	1,654
	31	87,07	3,428	43,5	1,714
	36	91,07	3,585	45,5	1,793
	41	95,07	3,743	47,5	1,870
	47	98,07	3,861	49,0	1,929
	51	101,07	3,979	50,5	1,990
	56	104,57	4,117	52,3	2,059
	61	108,57	4,274	54,3	2,137
	73	116,07	4,570	58,0	2,285
	90	127,07	5,003	63,5	2,501

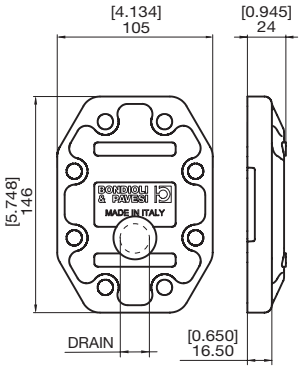
COPERCHI
COVERS
DECKEL

ST



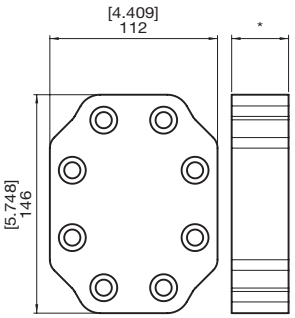
VERSIONE IN ALLUMINIO
VERSION IN ALUMINUM
ALUMINIUMVERSION

SG



VERSIONE IN GHISA
VERSION IN CAST IRON
GUSSVERSION

V..



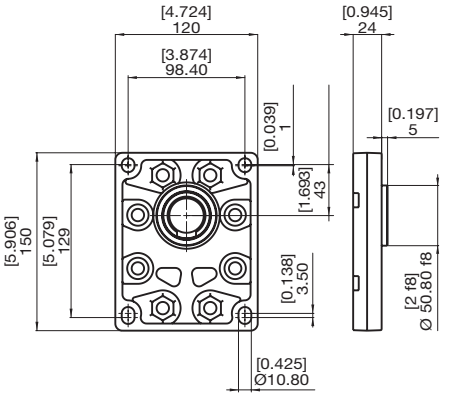
*** In funzione del tipo di valvola scelta**
**** Function of the type of valve***
*** Je nach Typ des gewählten Ventils**

Per bocche posteriori e valvole integrate
For rear ports and integrated valves
Für hintere Anschlüsse und integrierte Ventile

FLANGE
FLANGES
FLANSCHE

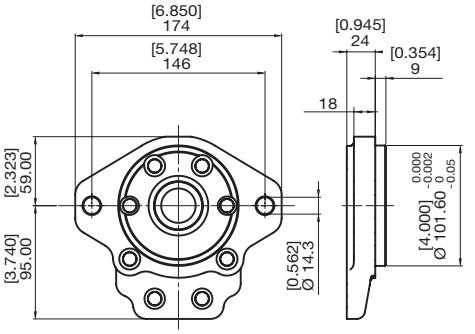
HPL..3

W



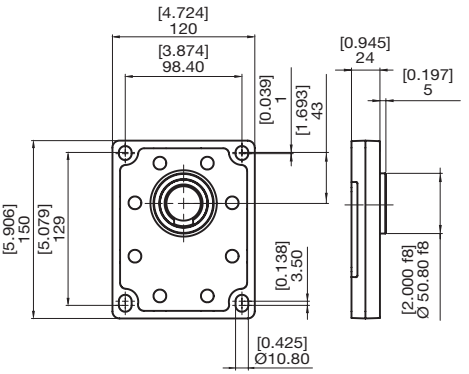
VERSIONE IN ALLUMINIO
VERSION IN ALUMINUM
ALUMINIUMVERSION

Z



VERSIONE IN ALLUMINIO
VERSION IN ALUMINUM
ALUMINIUMVERSION

Y

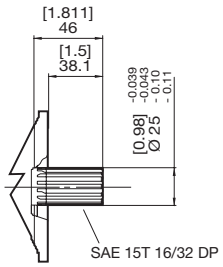


VERSIONE IN GHISA
VERSION IN CAST IRON
GUSSVERSION

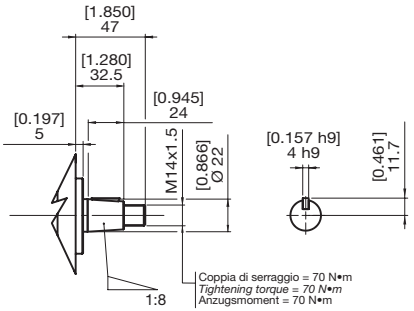
PROFILO ALBERI
SPLINE SHAFTS
WELLENPROFILE

HPL..3

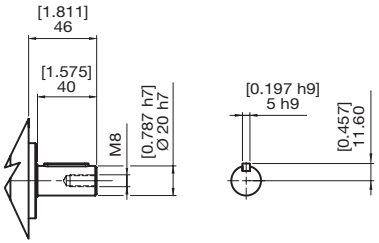
1 COPPIA MAX / *MAX TORQUE* / MAX DREHMOMENT 460 N•m



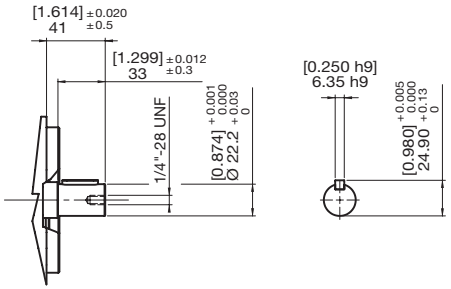
2 COPPIA MAX / *MAX TORQUE* / MAX DREHMOMENT 240 N•m



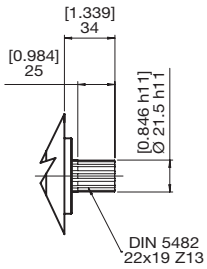
4 COPPIA MAX / *MAX TORQUE* / MAX DREHMOMENT 190 N•m



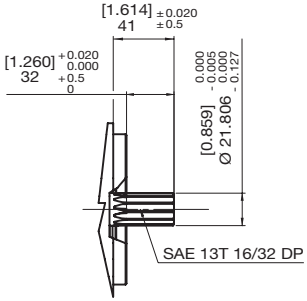
6 COPPIA MAX / *MAX TORQUE* / MAX DREHMOMENT 210 N•m



7 COPPIA MAX / *MAX TORQUE* / MAX DREHMOMENT 250 N•m



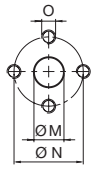
9 COPPIA MAX / *MAX TORQUE* / MAX DREHMOMENT 310 N•m



BOCCHE
PORTS
ANSCHLÜSSE

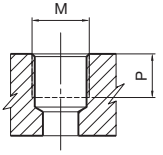
HPL..3

E LATERALE *LATERAL* SEITLICH



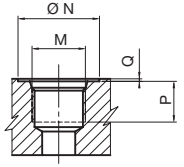
TIPO *TYPE* TYPE	M mm	M in	N mm	N in	O
E5	20	0,79	40	1,57	M8
E7	27	1,06	51	2,01	M10
E8	34	1,34	62	2,44	M10

G LATERALE *LATERAL* SEITLICH



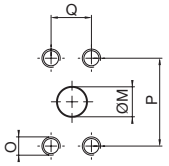
TIPO *TYPE* TYPE	M	P mm	P in
***G3**	3/8" GAS BSPP	12	0,47
G6	3/4" GAS BSPP	19	0,75
G7	1" GAS BSPP	21	0,83
G8	1 1/4" GAS BSPP	21	0,83

U LATERALE *LATERAL* SEITLICH



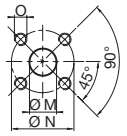
TIPO *TYPE* TYPE	DIMENSIONE *SIZE* GROSSE	N mm	N in	P mm	P in	Q mm	Q in	M
U6	3/4"	41	1,61	20	0,79	0,3	0,01	1-1/16"-12 UNF
U7	1"	49	1,93	20	0,79	0,3	0,01	1-5/16"-12UNF
U8	1 1/4"	58	2,28	20	0,79	0,3	0,01	1-5/8"-12 UNF

N LATERALE *LATERAL* SEITLICH



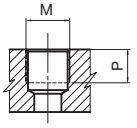
TIPO *TYPE* TYPE	DIMENSIONE *SIZE* GROSSE	M mm	M in	P mm	P in	Q mm	Q in	O
N6	3/4"	20	0,79	47,6	1,87	22,2	0,87	3/8"-16UNC-2B
N7	1"	27	1,06	52,4	2,6	26,2	1,03	3/8"-16UNC-2B
N8	1 1/4"	34	1,34	58,7	2,31	30,2	1,19	7/16"-14UNC-2B

X LATERALE *LATERAL* SEITLICH



TIPO *TYPE* TYPE	M mm	M in	N mm	N in	O
X7	19	0,75	55	2,17	M8
X8	27	1,06	55	2,17	M8

M



TIPO *TYPE* TYPE	M	P mm	P in
***M3**	M16x1,5	12	0,47

* Drenaggio - *Drain Port* - Lecköl

COMBINAZIONI
COMBINATIONS
KOMBINATIONEN

ESTREMITÀ ALBERO *SHAFT PROFIL* WELLENENDE	FLANGE • *FLANGE* • FLANSCHE W Y	FLANGE • *FLANGE* • FLANSCHE Z
1		■
2	■	
4	■	
6		■
7	■	
9		■
BOCCHE *PORTS* ANSCHLÜSSE		
E	■	
G	■	■
U		■
N		■
X	■	

ISTRUZIONI PER L'ORDINAZIONE
ORDERING INSTRUCTIONS
BESTELLANLEITUNG

HPL	PA	3	36	D	W	2	E7 E5	B	ST	--

SERIE
SERIES
SERIE

PRODOTTO
PRODUCT
PRODUKTE

MA - Motore
PA - Pompa singola
PT - Pompa predisposta

MA *- Motor*
PA *- Pump*
PT *- Adapted Pump*

MA - Motor
PA - Pumpe
PT - Vorbereitete Pumpe

GRUPPO
GROUP
BAUGRÖSSE

3

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

22 - 21,50
26 - 26,00
31 - 30,50
36 - 36,00
41 - 41,50
47 - 46,50
51 - 50,50
56 - 56,00
61 - 61,00
73 - 72,50
90 - 89,00

SENSO DI ROTAZIONE
ROTATION
DREHRICHTUNG

S - Antioraria/sinistra
Counterclockwise
Linkslauf

D - Oraria/destra
Clockwise
Rechtslauf

H - Bidirezionale drenaggio interno
Reversible ind drain.
reversibel, Lecköl intern, Anschluß seitlich

B - Bidirezionale drenaggio esterno posteriore
Reversible rear. drain. pont.
reversibel, Lecköl extern, Anschluß hinten

FLANGIA ANTERIORE
FRONT FLANGE
VORDERER FLANSCH

W - Europea D 50,8
Z - SAE B 2 fori
Y - Europea D 50,8 ghisa

W *- European D 50,8*
Z *- SAE B 2 holes*
Y *- European D 50,8 cast iron*

W - EU-Norm D 50,8
Z - SAE B 2 Bohrungen
Y - EU-Norm D 50,8 Guß

SET VALVOLE
VALVE SETTING
VENTILEINSTELLUNG
(bar)

COPERCHI - *COVERS* - DECKEL

ST - Standard
SG - Versione in ghisa
Version in cast iron
Gussversion
V.. - Con valvole
(Vedi sez. valvole)
With valves
(See valves section)
Mit Ventilen
(siehe Abschnitt Ventile)

GUARNIZIONI - *SEALS* - DICHTUNGEN

B - NBR
R - NBR alte pres. (25 bar)
high pres. (25 bar)
Hochdruck (25 bar)
V - Viton
W - Viton alte pres. (25 bar)
high pres. (25 bar)
Hochdruck (25 bar)

BOCCHE STD - *STANDARD PORT* - STANDARD ANSCHLÜSSE
CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

22.....31	***36.....61***	***73.....90***	
Pompe - *Pumps* -Pumpen IN/OUT	Pompe - *Pumps* -Pumpen IN/OUT	Pompe - *Pumps* -Pumpen IN/OUT	DRAIN
E5 E5	**E7 E5**	**E8 E7**	**M3**
G6 G6	**G7 G6**	**G8 G7**	**G3**
U7 U6	**U8 U7**	**U8 U7**	**M3**
N7 N6	**N7 N6**	**N7 N6**	**M3**
X8 X7	**X8 X7**	**X8 X7**	**M3**

MOTORI - *MOTORS* - MOTOREN OUT/IN
MOTORI BIDIR. IN=OUT - *REVERS. MOTORS IN=OUT* - BIDIREK.MOTOREN IN=OUT

ESTREMITÀ D'ALBERO
SHAFT PROFIL
WELLENENDE

1 - Scanalato SAE "BB" 15T
2 - Conico (1:8)
4 - Cilindrico europeo
6 - Cilindrico SAE "B"
7 - Scanalato DIN 5482
9 - Scanalato SAE "B" 13T

1 *- SAE "BB" 15T splined*
2 *- Tapered (1:8)*
4 *- European parallel shaft*
6 *- SAE "B" parallel shaft*
7 *- DIN 5482 splined*
9 *- SAE "B" 13T splined*

1 - Keiwelle SAE "BB" 15T
2 - Kegel (1:8)
4 - Kegel EU-Norm
6 - zylindrisch SAE "B"
7 - Keilwelle DIN 5482
9 - Keilwelle SAE "B" 13T

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HPL ..4

POMPE E MOTORI AD INGRANAGGI
GEAR PUMPS AND MOTORS
ZAHNRADPUMPEN UND -MOTOREN

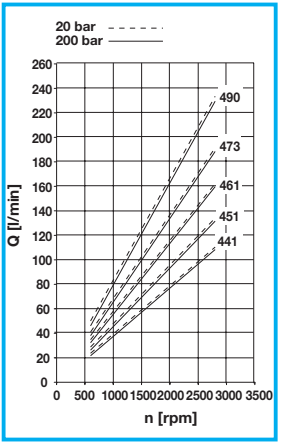
HPL PA4

POMPE AD INGRANAGGI
GEAR PUMPS
ZAHNRADPUMPEN

DATI TECNICI • *TECHNICAL DATA* • TECHNISCHE MERKMALE

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN (TM)		PRESSIONE- *PRESSURE* - DRUCK						VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL		MASSA *WEIGHT* GEWICHT	
				CONTINUA *CONTINUOS* DAUER		INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER		PICCO *PEAK* SPITZEN		MAX	MIN		
		cm³	in³	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹	Kg	lbs
4	41	41,80	2,55	220	3191	250	3626	300	4351	2800	600	9,20	20,28
	51	50,40	3,08	190	2756	210	3046	280	4061			9,20	20,28
	61	61,00	3,72	160	2321	180	2611	200	2901			9,60	21,16
	73	72,00	4,39	150	2176	160	2321	180	2611			9,60	21,16
	90	87,80	5,36	120	1740	130	1885	170	2466			9,60	21,16

DIAGRAMMA PORTATE *DIAGRAMS* • KENNLINIEN



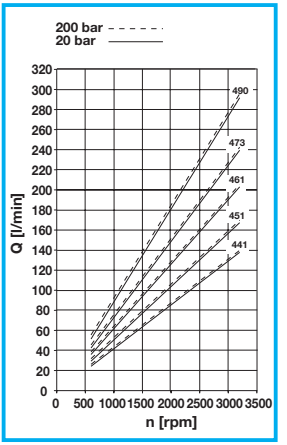
HPL MA4

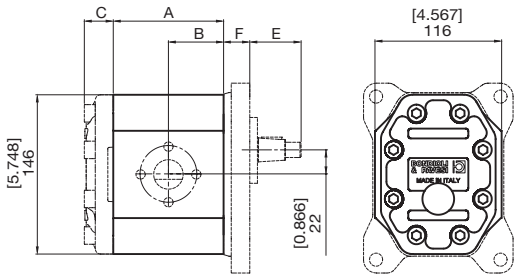
MOTORI AD INGRANAGGI
GEAR MOTORS
ZAHNRADMOTOREN

DATI TECNICI • *TECHNICAL DATA* • TECHNISCHE MERKMALE

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN (TM)		PRESSIONE- *PRESSURE* - DRUCK						VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL		MASSA *WEIGHT* GEWICHT	
				CONTINUA *CONTINUOS* DAUER		INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER		PICCO *PEAK* SPITZEN		MAX	MIN		
		cm³	in³	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹	Kg	lbs
4	41	41,80	2,55	220	3191	250	3626	300	4351	2800	600	9,20	20,28
	51	50,40	3,08	190	2756	210	3046	280	4061			9,20	20,28
	61	61,00	3,72	160	2321	180	2611	200	2901			9,60	21,16
	73	72,00	4,39	150	2176	160	2321	180	2611			9,60	21,16
	90	87,80	5,36	120	1740	130	1885	170	2466			9,60	21,16

DIAGRAMMA PORTATE *DIAGRAMS* • KENNLINIEN





C= Vedi sezione coperchi
F= Vedi sezione flange
E= Vedi sezione profilo alberi

C= See cover section
F= See flange section
E= See splined shafts section

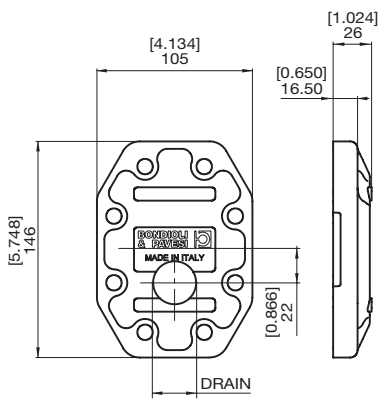
C= siehe Abschnitt Deckel
F= siehe Abschnitt Flansche
E= siehe Abschnitt Wellenprofil

**DIMENSIONE • *SIZE*
ABMESSUNGEN**

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	A		B	
		mm	in	mm	in
4	41	101,07	3,979	50,5	1,990
	51	101,07	3,979	50,5	1,990
	61	108,57	4,274	54,3	2,137
	73	116,07	4,570	58,0	2,285
	90	127,07	5,003	63,5	2,501

COPERCHI
COVERS
DECKEL

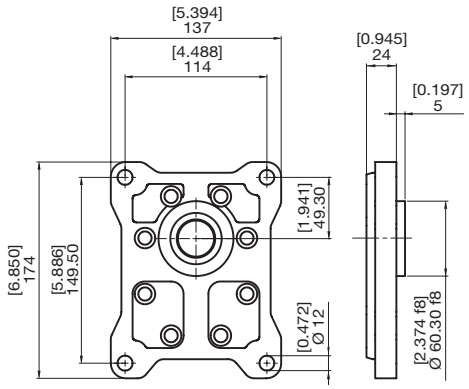
SG



VERSIONE IN GHISA
VERSION IN CAST IRON
GUSSVERSION

FLANGE
FLANGES
FLANSCHE

X

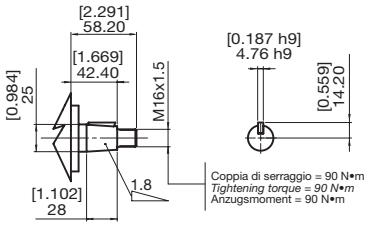


VERSIONE IN GHISA
VERSION IN CAST IRON
GUSSVERSION

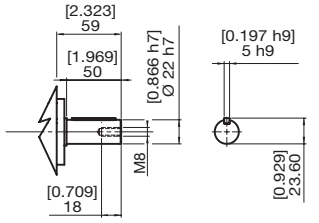
PROFILO ALBERI
SPLINE SHAFTS
WELLENPROFILE

HPL..4

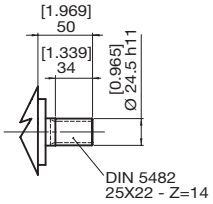
3 COPPIA MAX *MAX TORQUE* MAX DREHMOMENT 350 N•m



5 COPPIA MAX *MAX TORQUE* MAX DREHMOMENT 210 N•m

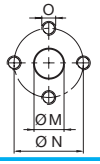


8 COPPIA MAX *MAX TORQUE* MAX DREHMOMENT 350 N•m



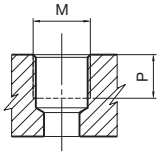
BOCCHE
PORTS
ANSCHLÜSSE

E LATERALE *LATERAL* SEITLICH



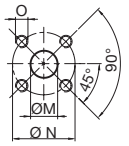
TIPO *TYPE* TYPE	M mm	M in	N mm	N in	O
E7	27	1,06	51	2,01	M10
E8	34	1,34	62	2,44	M10

G LATERALE *LATERAL* SEITLICH



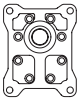
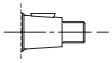
TIPO *TYPE* TYPE	M	P mm	P in
***G3**	3/8" GAS BSPP	12	0,47
G7	1" GAS BSPP	21	0,83
G8	1 1/4" GAS BSPP	21	0,83

X LATERALE *LATERAL* SEITLICH



TIPO *TYPE* TYPE	M mm	M in	N mm	N in	O
X7	19	0,75	55	2,17	M8
X8	27	1,06	55	2,17	M8

* Drenaggio - *Drain Port* - Lecköl

ESTREMITÀ ALBERO *SHAFT PROFIL* WELLENENDE	FLANGE • *FLANGE* • FLANSCHE X 
3 	■
5	■
8	■
BOCCHE *PORTS* **ANSCHLÜSSE**	
E	■
G	■
X	■

HPL **PA** **4** **61** **D** **X** **3** **E7** **E7** **B** **SG**

SERIE
SERIES
SERIE

PRODOTTO
PRODUCT
PRODUKTE

MA - Motore
PA - Pompa singola
PT - Pompa predisposta

MA *- Motor*
PA *- Pump*
PT *- Adapted Pump*

MA - Motor
PA - Pumpe
PT - Vorbereitete Pumpe

GRUPPO
GROUP
BAUGRÖSSE

4

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

41 - 41,80
51 - 50,40
61 - 61,00
73 - 72,00
90 - 87,80

SENSO DI ROTAZIONE
ROTATION
DREHRICHTUNG

S - Antioraria/sinistra
Counterclockwise
Linkslauf

D - Oraria/destra
Clockwise
Rechtslauf

H - Bidirezionale drenaggio interno
Reversible ind drain.
reversibel, Lecköl intern, Anschluß seitlich

B - Bidirezionale drenaggio esterno posteriore
Reversible rear. drain. pont.
reversibel, Lecköl extern, Anschluß hinten

FLANGIA ANTERIORE
FRONT FLANGE
VORDERER FLANSCH

X - Europea D 60,3

X *- European D 60,3*

X - EU-Norm D 60,3

BOCCHE STD
STANDARD PORT
STANDARD ANSCHLÜSSE

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

41.....61 Pompe - *Pumps* -Pumpen IN/OUT	***73.....90*** Pompe - *Pumps* -Pumpen IN/OUT	DRAIN
E7 E7	E8 E7	G3
G7 G7	G8 G8	G3
X8 X7	X8 X7	G3

MOTORI - ***MOTORS*** - **MOTOREN OUT/IN**

MOTORI BIDIR. IN=OUT - ***REVERS. MOTORS IN=OUT*** - **BIDIREK.MOTOREN IN=OUT**

ESTREMITÀ D'ALBERO
SHAFT PROFIL
WELLENENDE

3 - Conico (1:8)
5 - Cilindrico europeo
8 - Scanalato DIN 5482

3 *- Tapered (1:8)*
5 *- European parallel shaft*
8 *- DIN 5482 splined*

3 - Kegel (1:8)
5 - Kegel EU-Norm
8 - Keilwelle DIN 5482

COPERCHI
COVERS
DECKEL

SG - Versione in ghisa
Version in cast iron
Gussversion

GUARNIZIONI
SEALS
DICHTUNGEN

B - NBR
R - NBR — alte pres. (25 bar) *high pres. (25 bar)* Hochdruck (25 bar)

V - Viton
W - Viton — alte pres. (25 bar) *high pres. (25 bar)* Hochdruck (25 bar)

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Le pompe multiple sono combinazioni di più pompe (solitamente fino a quattro) trascinate da un unico albero.
Il trascinamento tra le diverse sezioni della pompa multipla avviene con l'interposizione di un apposito giunto e solitamente ciascuna pompa ha aspirazione e mandata indipendente dalle altre.

CARATTERISTICHE DI FUNZIONAMENTO
Per le singole unità valgono i valori riportati a catalogo: occorre tuttavia prestare attenzione ad alcune limitazioni.

PRESSIONE MASSIMA
COPPIA MASSIMA
Le pressioni massime sono limitate dalla coppia massima che l'albero di trascinamento /o i giunti di trascinamento possono trasmettere, considerando che: l'albero di trascinamento deve trasferire la coppia necessaria al trascinamento di tutte le sezioni: i valori massimi di coppia trasmissibile da ciascun tipo di estremità d'albero sono riportati nella sezione relativa alle estremità d'albero il giunto di trascinamento deve trasferire la coppia necessaria al trascinamento delle sezioni alle sue spalle i valori massimi di coppia trasmissibile sono riassunti nella tabella sottostante:

A multiple pump is a system resulting by coupling more than one pump (up to four) together and driving them by the same shaft.
The interposal of a joint permits the different multiple pump sections to drive one another. Commonly each pump maintains its own independent inlet and outlet side.

OPERATING CONDITIONS
All data contained in the manual should be referred to for each single unity; still, some restrictions must be taken into account.

MAXIMUM PRESSURE
MAXIMUM TORQUE
Maximum pressures are limited by the maximum torque an input shaft or input joint can transmit, considering that: The inlet shaft must transmit the necessary torque for driving all sections: for the maximum transmitted torque associated to each shaft end type, see the section dedicated to shaft ends.
The inlet joint must transmit the necessary torque for driving the sections located at its back: maximum transmitted torques are tabulated and summarized below:

Die Mehrfachpumpen sind Kombinationen mehrerer Pumpen (in der Regel bis zu vier), die von derselben Welle angetrieben werden.
Der Durchtrieb zwischen den verschiedenen Stufen der Mehrfachpumpe erfolgt durch den Einbau eines Tandemsatzes. Die Pumpenstufen normalerweise sind Saug- und Druckseite jeder Pumpe unabhängig.

BETRIEBSEIGENSCHAFTEN
Für die einzelnen Einheiten gelten die im Katalog aufgeführten Werte, dennoch sind einige Einschränkungen zu beachten.

HÖCHSTDRUCK-
HÖCHSTDREHMOMENT
Die Höchstdrücke werden durch das Höchstdrehmoment eingeschränkt, das die Mitnehmerwelle übertragen kann, wobei Folgendes zu beachten ist:
Die Mitnehmerwelle muss das für den Durchtrieb aller Pumpenstufen erforderliche Drehmoment übertragen können: Die Höchstdrehmomente, die von jedem Profil übertragen werden können, sind im Absatz Wellenprofile angegeben.
Die Mitnehmerwelle muss das für den Durchtrieb der dahinter liegenden Pumpenstufen erforderliche Drehmoment übertragen können. Die Höchstwerte der übertragbaren Drehmomente sind in der folgenden Tabelle zusammengefasst:

GIUNTO DI ACCOPPIAMENTO *COUPLING JOINT* WELLENKUPPLUNG			COPPIA MASSIMA TRASMISSIBILE *MAXIMUM TRASMITTED TORQUE* MAX. ÜBERTRAGBARES DREHMOMENT
HPLP•3 + HPLP•3			**200 N•m**
HPLP•3 + HPLP•2	**HPLP•2 + HPLP•2**		**100 N•m**
HPLP•3 + HPLP•1	**HPLP•2 + HPLP•1**	**HPLP•1 + HPLP•1**	**30 N•m**

VELOCITÀ MASSIMA
La velocità massima di una pompa multipla è limitata al valore minimo delle velocità massime delle singole sezioni.

MAXIMUM SPEED
The multiple pump maximum speed is represented by the minimum value among the maximum speeds of all sections.

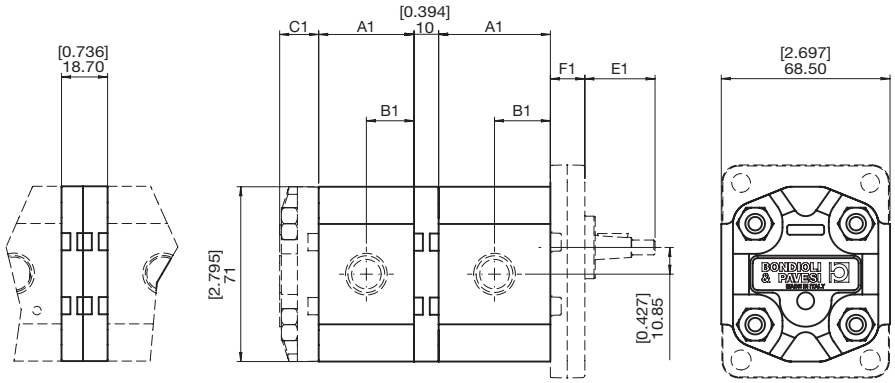
HÖCHSTDREHZAHL
Die Höchstdrehzahl einer Mehrfachpumpe entspricht der niedrigsten Drehzahl aller montierten Pumpen.

PER LE DIMENSIONI DELLE SINGOLE SEZIONI VEDERE IL GRUPPO DI RIFERIMENTO

FOR DIMENSION OF EACH SECTION REFER TO THE GROUP DIMENSION TABLE

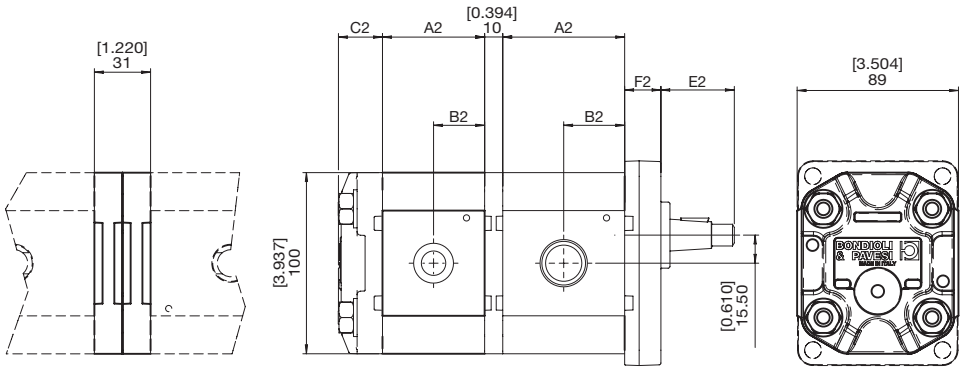
JEDE SEKTION BITTE NACH DER GRUPPENTABELLE AUSLEGEN

HPLP•1+HPLP•1



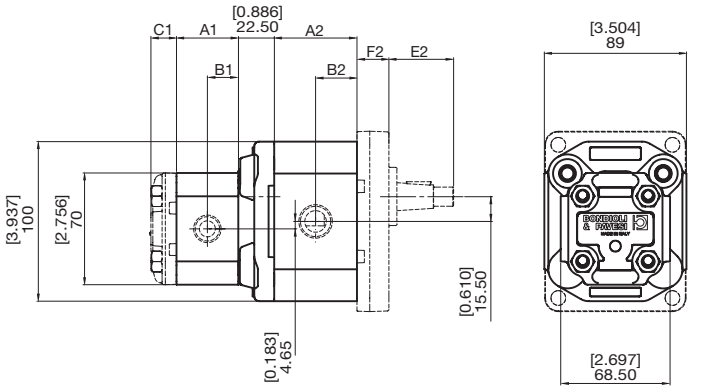
Stadi separati
Separate tanks
Unterschiedliche Behälter

HPLP•2+HPLP•2



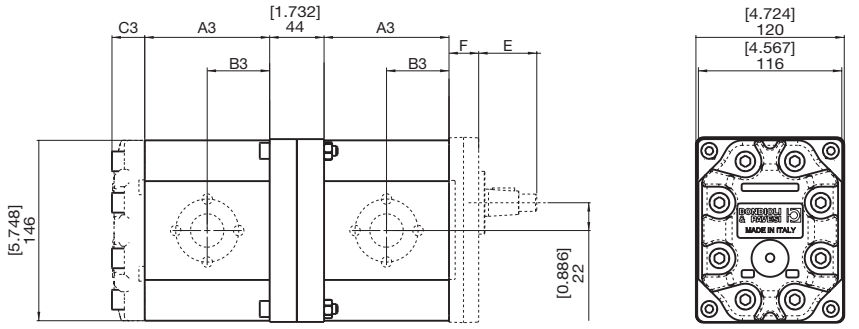
Stadi separati
Separate tanks
Unterschiedliche Behälter

HPLP•2+HPLP•1

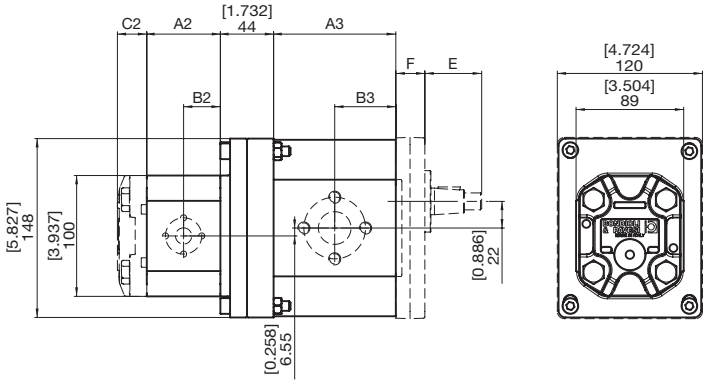


Per stadi separati le dimensioni di ingombro non variano	***Separate tanks use same dimensions***	**Unterschiedliche Behälter verwenden die gleichen Masse**

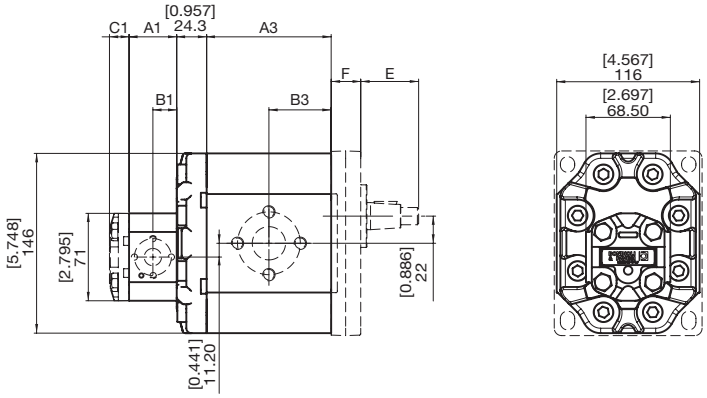
HPLP•3+HPLP•3



HPLP•3+HPLP•2



HPLP•3+HPLP•1



ISTRUZIONI PER L'ORDINAZIONE
ORDERING INSTRUCTIONS
BESTELLANLEITUNG

1° STADIO (Descrizione dello Stadio - *Stage's Description* - Stufen-Benennung)

HPL	PB	2	14	D	M	L

SERIE
SERIES
SERIE

PRODOTTO
PRODUCT
PRODUKTE

PB - Pompa doppia
PC - Pompa tripla
PD - Pompa quadrupla

***PB** - Double Pump*
***PC** - Triple Pump*
***PD** - Quadruple Pump*

PB - Doppelpumpe
PC - Dreifachpumpe
PD - Vierfachpumpe

GRUPPO
GROUP
BAUGRÖSSE

1 - 2 - 3 - 4

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

HPL..1	HPL..2	HPL..3	HPL..4
14 - 1,37	**05** - 4,50	**22** - 21,50	**41** - 41,80
19 - 1,90	**06** - 6,00	**26** - 26,00	**51** - 50,40
24 - 2,53	**08** - 8,50	**31** - 30,50	**61** - 61,00
31 - 3,17	**11** - 11,00	**36** - 36,00	**73** - 72,00
36 - 3,73	**14** - 14,50	**41** - 41,50	**90** - 87,80
44 - 4,35	**17** - 17,00	**47** - 46,50	
48 - 4,97	**20** - 19,50	**51** - 50,50	
60 - 6,08	**26** - 26,00	**56** - 56,00	
70 - 7,00	**34** - 34,00	**61** - 61,50	
80 - 7,87	**40** - 40,50	**73** - 72,50	
		90 - 89,00	

SENSO DI ROTAZIONE
ROTATION
DREHRICHTUNG

S - Antioraria/sinistra
Counterclockwise
Linkslauf

D - Oraria/destra
Clockwise
Rechtslauf

FLANGIA ANTERIORE
FRONT FLANGE
VORDERER FLANSCH

HPL..1

D - Europea D 25,4
E - Europea D 30
G - Tedesca con OR
J - SAE AA

***D** - European standard*
***E** - European Ø 30*
***G** - German with OR*
***J** - SAE AA*

D - EU-Norm.D 95,5
E - EU-Norm.D 30
G - DIN-Norm.(mit O.R. Dichtung)
J - SAE AA

HPL..2

M - Europea
N - Tedesca
O - Tedesca D 50 2 fori DX
P - Tedesca D 50 2 fori SX
R - Tedesca D 52
S - SAE A 2 fori
T - SAE B 2 fori
U - Perkins
V - Tedesca in ghisa

***M** - European*
***N** - German*
***O** - German D 50 2 holes right*
***P** - German D 50 2 holes left*
***R** - German D 52*
***S** - SAE A 2 holes*
***T** - SAE B 2 holes*
***U** - Perkins*
***V** - German cast iron*

M - EU-Norm
N - DIN-Norm
O - DIN-Norm D 50 2 Bohrungen rechts
P - DIN-Norm D 50 2 Bohrungen links
R - DIN-Norm D 52
S - SAE A 2 Bohrungen
T - SAE B 2 Bohrungen
U - Perkins
V - Din gussversion

HPL..3

W - Europea D 50,8
Z - SAE B 2 fori
Y - Europea D 50,8 ghisa

***W** - European D 50,8*
***Z** - SAE B 2 holes*
***Y** - European D 50,8 cast iron*

W - EU-Norm D 50,8
Z - SAE B 2 Bohrungen
Y - EU-Norm D 50,8 Guß

HPL..4

X - Europea D 60,3
***X** - European D 60,3*
X - EU-Norm D 60,3

ESTREMITÀ D'ALBERO
SHAFT PROFIL **- WELLENENDE**

HPL..1

D - Conico (1:8)
E - Cilindrico europeo
F - Cilindrico SAE "AA"
G - Conico (1:5)
H - Scanalato 12x9
I - Scanalato SAE "AA"
J - Dente frontale sporgente
K - Dente frontale
T* - Conico high torque (1:8)

***D** - Tapered (1:8)*
***E** - European parallel shaft*
***F** - SAE "AA" parallel shaft*
***G** - Tapered (1:5)*
***H** - Splined 12x9*
***I** - SAE "AA" splined*
***J** - Front tooth*
***K** - Tang drive*
T - Tapered high torque (1:8)*

D - Kegel (1:8)
E - zylindrisch (E-norm)
F - zylindrisch SAE "AA"
G - Kegel (1:5)
H - Keilwelle 12x9
I - Keilwelle SAE "AA"
J - Vorstehendes Kreuzprofil
K - Kreuzprofil
T* - verstärkter Kegel (1:8)

HPL..2

L - Conico (1:8)
M - Conico (1:5)
N - Cilindrico D15 europeo
P - Cilindrico SAE "A"
U - Scanalato DIN 5482
V - Scanalato SAE "A" 9T
X - Scanalato SAE "A" 11T
Y* - Scanalato SAE "B" 13T
Z - Dente frontale

***L** - Tapered (1:8)*
***M** - Tapered (1:5)*
***N** - D15 European parallel shaft*
***P** - SAE "A" parallel shaft*
***U** - DIN 5482 splined*
***V** - SAE "A" 9T splined*
***X** - SAE "A" 11T splined*
Y - SAE "B" 13T splined*
***Z** - Tang drive*

L - Kegel (1:8)
M - Kegel (1:5)
N - zylindrisch (E-norm)
P - zylindrisch SAE "A"
U - Keilwelle DIN 5482
V - Keilwelle SAE "A" 9T
X - Keilwelle SAE "A" 11T
Y* - Keilwelle SAE "B" 13T
Z - Kreuzprofil

HPL..3

1 - Scanalato SAE "BB" 15T
2 - Conico (1:8)
4 - Cilindrico europeo
6 - Cilindrico SAE "B"
7 - Scanalato DIN 5482
9 - Scanalato SAE "B" 13T

1 - SAE "BB" 15T Splined
***2** - Tapered (1:8)*
***4** - European parallel shaft*
***6** - SAE "B" parallel shaft*
***7** - DIN 5482 splined*
***9** - SAE "B" 13T splined*

1 - Keiwelle SAE "BB" 15T
2 - Kegel (1:8)
4 - Kegel EU-Norm
6 - zylindrisch SAE "B"
7 - Keilwelle DIN 5482
9 - Keilwelle SAE "B" 13T

HPL..4

3 - Conico (1:8)
5 - Cilindrico europeo
8 - Scanalato DIN 5482

***3** - Tapered (1:8)*
***5** - European parallel shaft*
***8** - DIN 5482 splined*

3 - Kegel (1:8)
5 - zylindrisch EU-Norm
8 - Keilwelle DIN 5482

* Per le cilindrate disponibili rivolgersi all'ufficio tecnico- *Contact tecnichal office for available displacements* - Für die erhältlichen Fördervolumina sich an die technische Abteilung wenden

STADI SUCCESSIVI - *STAGE'S FOLLOWING* - FOLGESTUFEN
(Descrizione dello Stadio - *Stage's Description* - Stufen Benennung)

G6 G4	B	1	36	G3 G3	ST	--

SET VALVOLE
VALVE SETTING
VENTILEINSTELLUNG
(bar)

COPERCHI
COVERS
DECKEL

ST - Standard
V.. - Con valvole
(Vedi sez. valvole)
With valves
(See valves section)
Mit Ventilen
(siehe Ventile Abschnitt)
SG- Versione in ghisa
(solo HPL..3, HPL..4)
Version in cast iron
(only HPL..3, HPL..4)
Gussversion
(nur HPL..3, HPL..4)
EU**- Entrata unica
Common inlet
Geläufiger Eingang

BOCCHE STD - *STANDARD PORT* - STANDARD ANSCHLÜSSE
CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

HPL..1

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

1,4.....4,8 Pompe - *Pumps* Pumpen IN/OUT	*6.....8* Pompe - *Pumps* Pumpen IN/OUT
E3 E3	E3 E3
G3 G3	G4 G4
X3 X3	X3 X3
M4 M2	M4 M2

1,4.....4,8 Pompe - *Pumps* Pumpen IN/OUT	*6.....8* Pompe - *Pumps* Pumpen IN/OUT
U3 U3	U4 U4

HPL..2

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

5.....8 Pompe - *Pumps* -Pumpen IN/OUT	*11* -Pumpen IN/OUT	*14.....20* Pompe - *Pumps* -Pumpen IN/OUT	*26.....40* Pompe - *Pumps* -Pumpen IN/OUT
E3 E3		E5 E3	E5 E5
G4 G4		G6 G4	G6 G6
X5 X4	X6 X4	X6 X4	X6 X5
U6 U5		U6 U5	U6 U5

HPL..3

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

22.....31 Pompe - *Pumps* -Pumpen IN/OUT	*36.....61* Pompe - *Pumps* -Pumpen IN/OUT	*73.....90* Pompe - *Pumps* -Pumpen IN/OUT
E5 E5	E7 E5	E8 E7
G6 G6	G7 G6	G8 G7
U7 U6	U8 U7	U8 U7
N7 N6	N7 N6	N7 N6
X8 X7	X8 X7	X8 X7

HPL..4

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

41.....61 Pompe - *Pumps* -Pumpen IN/OUT	*73.....90* Pompe - *Pumps* -Pumpen IN/OUT
E7 E7	E8 E7
G7 G7	G8 G8
X8 X7	X8 X7

BOCCHE
PORT
ANSCHLÜSSE

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

GRUPPO
GROUP
BAUGRÖSSE

GUARNIZIONI
SEALS
DICHTUNGEN

B - NBR
R - NBR alte pres. (25 bar)
high pres. (25 bar)
Hochdruck (25 bar)
S** - NBR stadi separati
separate tanks
unterschiedliche Behälter
V - Viton
W - Viton alte pres. (25 bar)
high pres. (25 bar)
Hochdruck (25 bar)

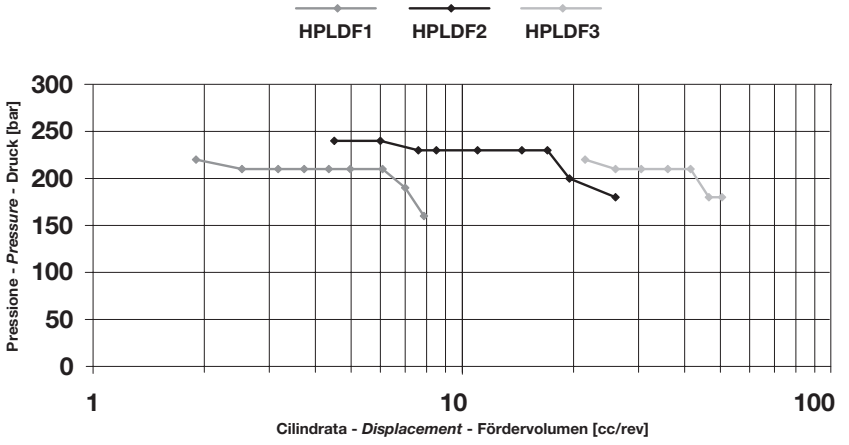
PER OGNI STADIO AGGIUNTO RIPETERE LA DESCRIZIONE

DESCRIPTION TO BE REPEATED FOR EVERY ADDED SECTION

FUR JEDE STUFE, BITTE BESCHREIBUNG WIEDERHOLEN

** Non disponibile per il Gruppo 3- ** *Not available for Group 3* - ** Nicht vorhanden für Gruppe 3

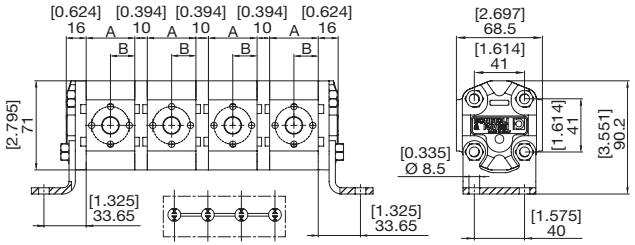
PROGRAMMA DI PRODUZIONE
PRODUCTION RANGE
LIEFERPROGRAMM

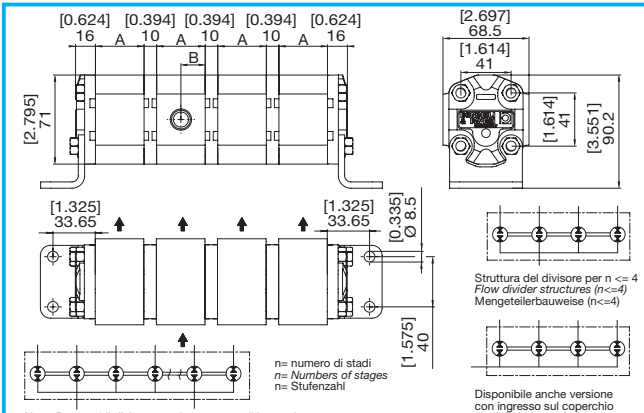


DATI TECNICI • *TECHNICAL DATA* • TECHNISCHE MERKMALE

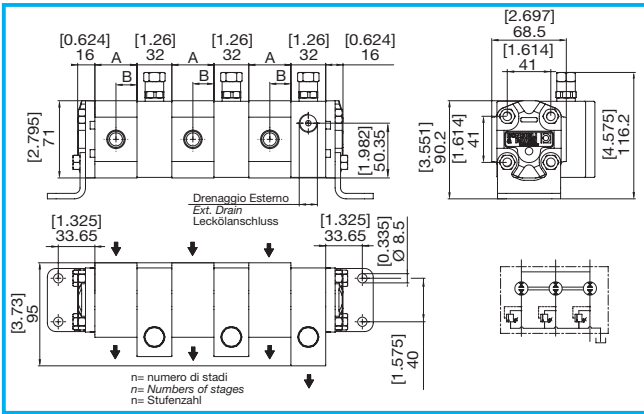
GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN (TM)		PRESSIONE- *PRESSURE* - DRUCK				ΔP MAX TRA LE SEZIONI *ΔP MAX OUTLET BETWEEN SECTIONS* ΔP ZWISCHEN DEN STUFEN		VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL	
				CONTINUA *CONTINUOS* DAUER		INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER				MAX	MIN
		cm³	in³	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹
1	**19**	1,90	0,12	220	3191	260	3771	190	2756	4800	700
	24	2,53	0,15	210	3046	250	3626	180	2611		
	31	3,17	0,19	210	3046	250	3626	180	2611		
	36	3,73	0,23	210	3046	250	3626	180	2611		
	44	4,35	0,27	210	3046	250	3626	180	2611		
	48	4,97	0,30	210	3046	250	3626	180	2611		
	60	6,08	0,37	210	3046	250	3626	180	2611	3600	
	70	7,00	0,43	190	2756	210	3046	160	2321		
	80	7,87	0,48	160	2321	180	2611	130	1885		
2	**05**	4,50	0,27	240	3481	260	3771	210	3046	4000	700
	06	6,00	0,37	240	3481	260	3771	210	3046		
	08	8,50	0,52	230	3336	250	3626	200	2901		
	11	11,00	0,67	230	3336	250	3626	200	2901		
	14	14,50	0,88	230	3336	250	3626	200	2901		
	17	17,00	1,04	230	3336	250	3626	200	2901		
	20	19,50	1,19	200	2901	220	3191	170	2466	3400	
	26	26,00	1,59	180	2611	190	2756	150	2176		
3	**22**	21,50	1,31	220	3191	250	3626	190	2756	3500	700
	26	26,00	1,59	210	3046	250	3626	180	2611		
	31	30,50	1,86	210	3046	250	3626	180	2611		
	36	36,00	2,20	210	3046	250	3626	180	2611		
	41	41,50	2,53	210	3046	250	3626	180	2611		
	47	46,50	2,84	180	2611	210	3046	150	2176		
	51	50,50	3,08	180	2611	210	3076	150	2176		

HPLDF.1



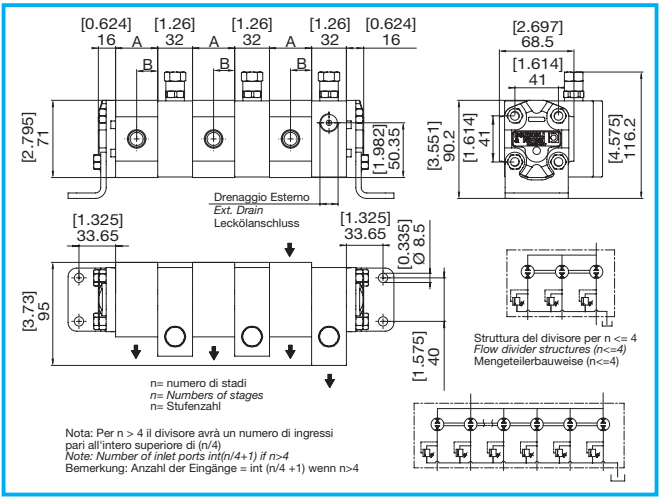


Nota: Per n > 4 il divisore avra' un numero di ingressi pari all'intero superiore di (n/4)
Note: Number of inlet ports int(n/4+1) if n>4
Bemerkung: Anzahl der Eingänge= int (n/4 +1) wenn n>4



DIMENSIONE • *SIZE* ABMESSUNGEN

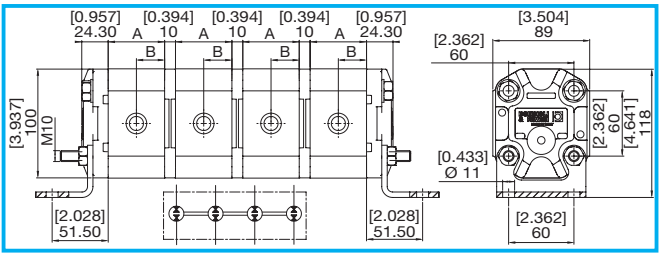
GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	A		B	
		mm	in	mm	in
1	19	38,7	1,524	19,4	0,762
	24	38,7	1,524	19,4	0,762
	31	38,7	1,524	19,4	0,762
	36	45,35	1,785	22,7	0,893
	44	45,35	1,785	22,7	0,893
	48	45,35	1,785	22,7	0,893
	60	56,05	2,207	28,0	1,103
	70	56,05	2,207	28,0	1,103
	80	56,05	2,207	28,0	1,103



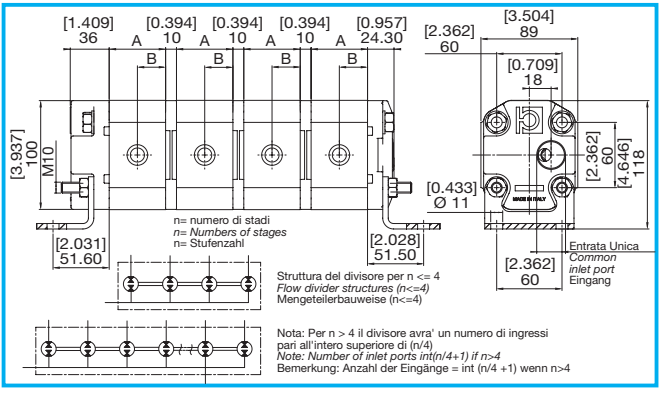
HPLDF.1

DIMENSIONE • *SIZE* ABMESSUNGEN

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	A		B	
		mm	in	mm	in
1	19	38,7	1,524	19,4	0,762
	24	38,7	1,524	19,4	0,762
	31	38,7	1,524	19,4	0,762
	36	45,35	1,785	22,7	0,893
	44	45,35	1,785	22,7	0,893
	48	45,35	1,785	22,7	0,893
	60	56,05	2,207	28,0	1,103
	70	56,05	2,207	28,0	1,103
	80	56,05	2,207	28,0	1,103



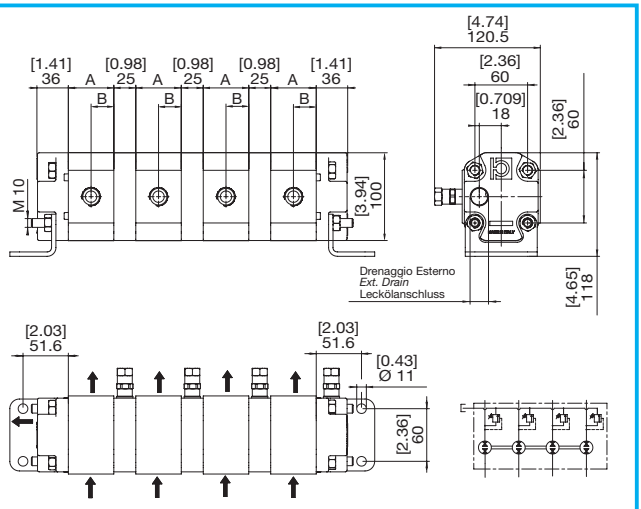
HPLDF.2

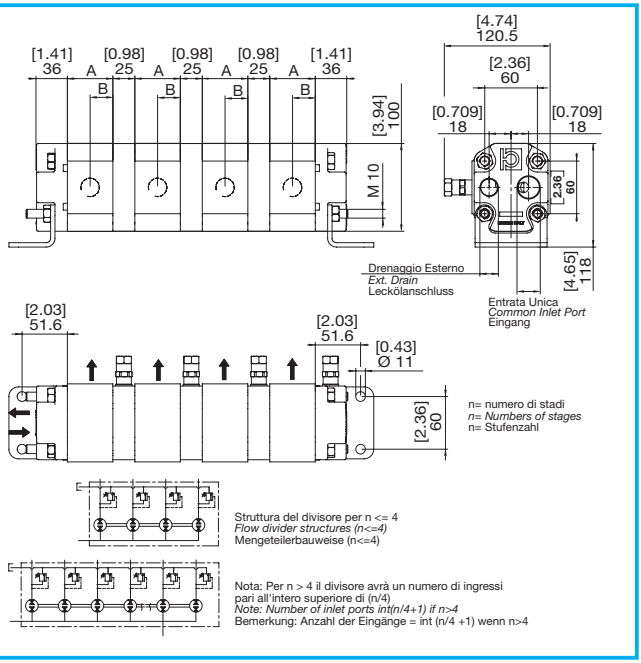


DIMENSIONE • *SIZE* ABMESSUNGEN

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	A		B	
		mm	in	mm	in
2	05	49,15	1,935	24,6	0,968
	06	51,85	2,041	25,9	1,021
	08	56,35	2,219	28,2	1,109
	11	60,85	2,396	30,4	1,198
	14	67,25	2,648	33,6	1,324
	17	71,75	2,825	35,9	1,412
	20	76,25	3,002	38,1	1,501
	26	88,55	3,486	44,3	1,743

HPLDF.2





DIMENSIONE • *SIZE* ABMESSUNGEN

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	A		B	
		mm	in	mm	in
2	05	49,15	1,935	24,6	0,968
	06	51,85	2,041	25,9	1,021
	08	56,35	2,219	28,2	1,109
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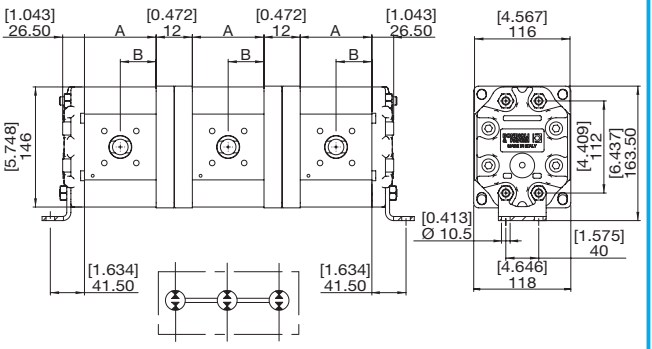
	14	67,25	2,648	33,6	1,324
	17	71,75	2,825	35,9	1,412
	20	76,25	3,002	38,1	1,501
	26	88,55	3,486	44,3	1,743



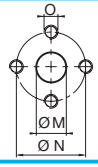
Nota: Per n > 4 il divisore avra' un numero di ingressi pari all'intero superiore di (n/4)
Note: Number of inlet ports int(n/4+1) if n>4
Bemerkung: Anzahl der Eingänge = int (n/4 +1) wenn n>4

HPLDF.3

DIMENSIONE • *SIZE* ABMESSUNGEN

GRUPPO *GROUP* BAUREIHE	TIPO *TYPE* TYP	A		B	
		mm	in	mm	in
3	22	81,07	3,192	40,5	1,594
	26	84,07	3,310	42,0	1,654
	31	87,07	3,428	43,5	1,714
	36	91,07	3,585	45,5	1,793
	41	95,07	3,743	47,5	1,870
	47	98,07	3,861	49,0	1.929
	51	101,07	3,979	50,5	1,990

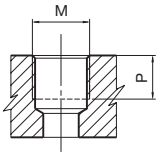
E LATERALE *LATERAL* SEITLICH



TIPO *TYPE* TYPE	M mm	M in	N mm	N in	O
E3	13	0,51	30	1,18	M6
E5	20	0,79	40	1,57	M8
E7	27	1,34	51	2,01	M10

G LATERALE *LATERAL* SEITLICH

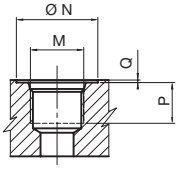
T POSTERIORE *REAR* HINTEN



TIPO *TYPE* TYPE	M	P mm	P in
G3	3/8" GAS BSPP	12	0,47
G4	1/2" GAS BSPP	16	0,63
G6	3/4" GAS BSPP	19	0,75
G7	1" GAS BSPP	21	0,83
T4	1/2" GAS BSPP	16	0,63
T6	3/4" GAS BSPP	19	0,75

U LATERALE *LATERAL* SEITLICH

C POSTERIORE *REAR* HINTEN



TIPO *TYPE* TYPE	DIMENSIONE *SIZE* GRÖSSE	N mm	N in	P mm	P in	Q mm	Q in	M
U3	3/8"	25	0,98	13	0,3	0,3	0,01	9/16"-18 UNF
U4	1/2"	30	1,18	15	0,3	0,3	0,01	3/4"-16 UNF
U5	5/8"	34	1,34	17	0,67	0,3	0,01	7/8"-14 UNF
U6	3/4"	41	1,61	19	0,75	0,3	0,01	1-1/16"-12 UNF
U7	1"	49	1,93	19	0,75	0,3	0,01	1-5/16"-12 UNF
U8	1 1/4"	58	2,28	19	0,75	0,3	0,01	1-5/8"-12 UNF
C5	5/8"	34	1,34	17	0,67	0,3	0,01	7/8"-14 UNF
C6	3/4"	41	1,61	19	0,75	0,3	0,01	1-1/16"-12 UNF

ISTRUZIONI PER L'ORDINAZIONE
ORDERING INSTRUCTIONS
BESTELLANLEITUNG

HPLDF..

HPL	DF	2	2	11	G4 G4	B	ST	--

SERIE
SERIES
SERIE

SET VALVOLE
VALVE SETTING
VENTILEINSTELLUNG
(bar)

COPERCHI - *COVERS* - DECKEL
ST - Standard
SG - Versione in ghisa (solo HPLDF.3)
Version in cast iron (only HPLDF.3)
Gussversion (nur HPLDF.3)
VE - Con valvole (Vedi sez. valvole)
With valves (See valves section)
Mit Ventilen (siehe Ventile Abschnitt)

PRODOTTO
PRODUCT
PRODUKTE

DF - Divisori di flusso
Flow dividers
Mengenteiler

GUARNIZIONI - *SEALS* - DICHTUNGEN
B - NBR
V - Viton

2 - 3 - 4 - 5 - 6
N° degli Stadi
N° Stage
N° Stufen

GRUPPO
GROUP
BAUGRÖSSE

1 - 2 - 3

BOCCHE STD - *STANDARD PORT* - STANDARD ANSCHLÜSSE

HPLDF.1

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

1,9.....4,8		*6.....8*	
IN/OUT	DRAIN	IN/OUT	DRAIN
E3 E3 **G3 G3** **U3 U3**	**G3** **G3** **U3**	**E3 E3** **G4 G4** **U4 U4**	**G3** **G3** **U3**
ASPIRAZIONE UNICA COPERCHIO - *COVER COMMON INLET* - EINGANG DECKEL			
T4 G3 **C5 U3**	**G3** **U3**	**T4 G4** **U5 U4**	**G3** **U3**
ASPIRAZIONE UNICA CORPO - *BODY COMMON INLET* - EINGANG GEHÄUSE			
G4 G3 **U4 U3**	**G3** **U3**	**G6 G4** **U5 U4**	**G3** **U3**

HPLDF.2

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

5.....11		*14.....20*		*26*	
IN/OUT	DRAIN	IN/OUT	DRAIN	IN/OUT	DRAIN
E3 E3 **G4 G4** **U5 U5**	**G4** **G4** **U4**	**E5 E5** **G6 G6** **U6 U6**	**G4** **G4** **U4**	**E5 E5** **G6 G6** **U6 U6**	**G4** **G4** **U4**
ASPIRAZIONE UNICA COPERCHIO - *COVER COMMON INLET* - EINGANG DECKEL					
T6 G4 **C6 U5**	**G4** **U4**	**T6 G4** **C6 U5**	**G4** **U4**	**T6 G4** **C6 U5**	**G4** **U4**
ASPIRAZIONE UNICA CORPO - *BODY COMMON INLET* - EINGANG GEHÄUSE					
G6 G4 **U6 U4**	**G4** **U4**	**G6 G4** **U6 U5**	**G4** **U4**	**G7 G6** **U7 U6**	**G4** **U4**

HPLDF.3

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

22.....31	*36.....51*
IN/OUT	IN/OUT
E5 E5 **G6 G6** **U7 U6**	**E7 E5** **G7 G6** **U8 U7**

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

HPLDF.1	HPLDF.2	HPLDF.3
19 - 1,90	**05** - 4,50	**22** - 21,50
24 - 2,53	**06** - 6,00	**26** - 26,00
31 - 3,17	**08** - 8,50	**31** - 30,50
36 - 3,73	**11** - 11,00	**36** - 36,00
44 - 4,35	**14** - 14,50	**41** - 41,50
48 - 4,97	**17** - 17,00	**47** - 46,50
60 - 6,08	**20** - 19,50	**51** - 50,50
70 - 7,00	**26** - 26,00	
80 - 7,87		

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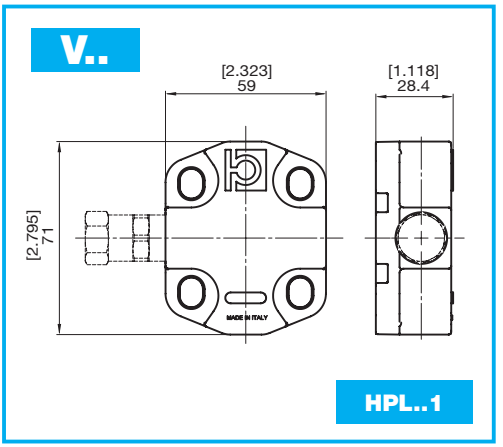
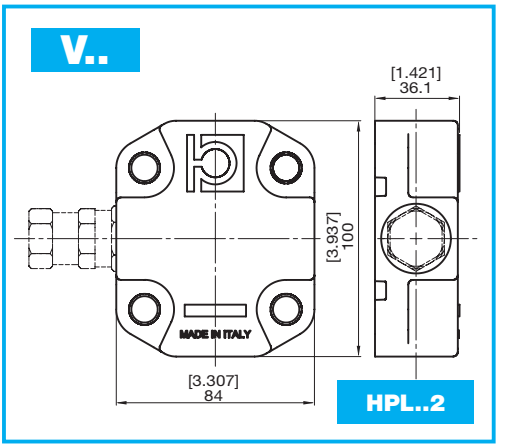
POMPE E MOTORI CON VALVOLE INTEGRATE
INTEGRATED VALVES FOR PUMP AND MOTOR
PUMPEN UND MOTOREN MIT INTEGRIERTEN VENTILEN

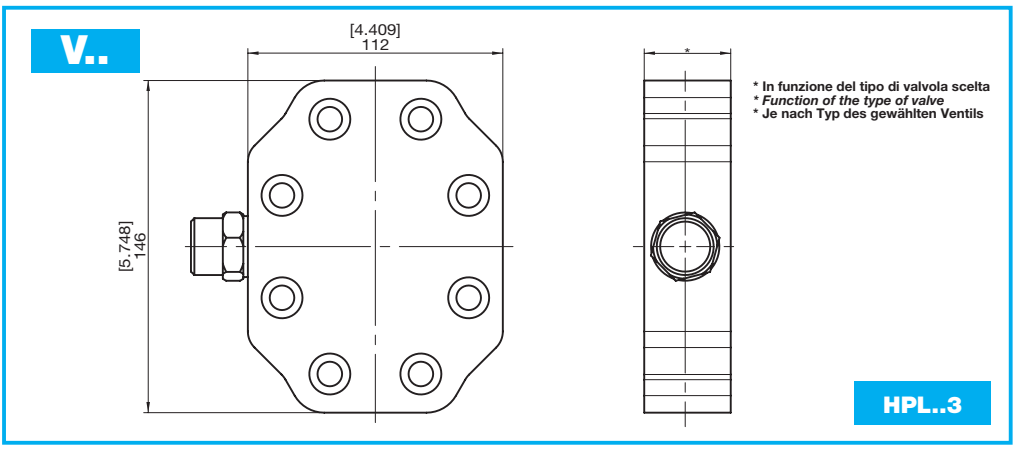
Con lo scopo di integrare più funzioni in un unico componente il circuito idraulico e quindi per ridurre anche la circuitistica d'impianto è possibile incorporare nel coperchio della pompa e/o del motore alcuni tipi di valvole di controllo della portata (valvole prioritarie) e della pressione oltre a valvole di non ritorno .
Per ottenere informazioni più accurate della gamma di personalizzazioni si prega di contattare il ns servizio tecnico-commerciale.

To integrate many functions into a single component of the hydraulic circuit and to limit the installation circuitry, it is possible to have some types of flow control valves (priority valves), pressure control valves, and check valves incorporated into the pump/motor cover.
For further information about the series of customized solutions, please contact our Technical and Commercial Department.

Um mehrere Funktionen in einem einzigen Bauteil des Hydraulikkreislaufs zusammenzufassen und, um die Anzahl der Bauteile zu reduzieren, können in den Deckel der Pumpe und/oder des Motors einige Ventiltypen zur Regelung von Durchfluss (Prioriätsventile) und Druck sowie Rückschlagventile integriert werden.
Für nähere Informationen über die Möglichkeiten der Anpassung an Ihre Bedürfnisse wenden Sie sich bitte an unseren technischen Kundendienst und Vertrieb.







VALVOLE
VALVES
VENTILE

VA

VALVOLA UNIDIREZIONALE
ANTI-CAVITATION CHECK VALVE
RÜCKSCHLAGVENTILE

VB

VALVOLA DI MASSIMA PRESSIONE A TARATURA FISSA DRENAGGIO INTERNO
ANTI-CAVITATION CHECK VALVE AND RELIEF VALVE WITH INTERNAL DRAIN
FESTEINGESTELLTES DRUCKBEGRENZUNGSVENTIL MIT INTERNEM LECKÖL

VC

VALVOLA DI MASSIMA PRESSIONE A TARATURA FISSA DRENAGGIO ESTERNO
ANTI-CAVITATION CHECK VALVE AND RELIEF VALVE WITH EXTERNAL DRAIN
FESTEINGESTELLTES DRUCKBEGRENZUNGSVENTIL MIT EXTERNEM LECKÖL

VD

VALVOLA DI MASSIMA PRESSIONE DIRETTA REGOLABILE A DRENAGGIO INTERNO
PRESSURE RELIEF VALVE WITH INTERNAL DRAIN
EINSTELLBARES DRUCKBEGRENZUNGSVENTIL MIT INTERNEM LECKÖL

VE

VALVOLA DI MASSIMA PRESSIONE DIRETTA REGOLABILE A DRENAGGIO ESTERNO
PRESSURE RELIEF VALVE WITH EXTERNAL DRAIN
EINSTELLBARES DRUCKBEGRENZUNGSVENTIL MIT EXTERNEM LECKÖL

VF

VALVOLA REGOLATRICE DI FLUSSO COMPENSATA A TARATURA FISSA CON RICIRCOLO PORTATA RESIDUA
FIXED PRIORITY FLOW DIVIDER, 2-WAY
FESTEINGESTELLTES DRUCKKOMPENSIERTES STROMREGELVENTIL MIT RESTÖLUMLAUF

VG

VALVOLA REGOLATRICE DI FLUSSO COMPENSATA CON RICIRCOLO PORTATA RESIDUA
ADJUSTABLE PRIORITY FLOW DIVIDER, 2-WAY
EINSTELLBARES DRUCKKOMPENSIERTES STROMREGELVENTIL MIT RESTÖLUMLAUF

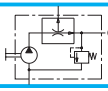
VH

VALVOLA REGOLATRICE DI FLUSSO COMPENSATA A TARUTURA FISSA
FIXED PRIORITY FLOW DIVIDER, 3-WAY
FESTEINGESTELLTES 3-WEGE-STROM-REGELVENTIL MIT DRUCKKOMPENSATION

VI

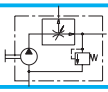
VALVOLA REGOLATRICE DI FLUSSO COMPENSATA
ADJUSTABLE PRIORITY FLOW DIVIDER, 3-WAY
FESTEINGESTELLTES 3-WEGE-STROM-REGELVENTIL MIT DRUCKKOMPENSATION

VJ



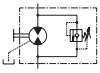
C VALVOLA REGOLATRICE DI FLUSSO COMPENSATA A TARATURA FISSA CON CONTROLLO DI PRESSIONE SU PORTATA COSTANTE
FIXED PRIORITY FLOW DIVIDER, 3-WAY WITH RELIEF ON PRIORITY FLOW
FESTEINGESTELLTES KOMPENSIERTES STROMREGELVENTIL MIT DRUCKBEGRENZUNGSVENTIL

VK



C VALVOLA REGOLATRICE DI FLUSSO COMPENSATA CON CONTROLLO DI PRESSIONE SU PORTATA COSTANTE
ADJUSTABLE PRIORITY FLOW DIVIDER, 3-WAY WITH RELIEF ON PRIORITY FLOW
FESTEINGESTELLTES KOMPENSIERTES STROMREGELVENTIL MIT DRUCKBEGRENZUNGSVENTIL

VT



VALVOLA DI MASSIMA PRESSIONE DIRETTA REGOLABILE A DRENAGGIO INTERNO CON VALVOLA ANTICAVITAZIONE
PRESSURE RELIEF VALVE WITH INTERNAL DRAIN WITH ANTI-CAVITATION CHECK VALVE
EINSTELLBARES DRUCKBEGRENZUNGSVENTIL MIT INTERNEM LECKÖL MIT RÜCKSCHLAGVENTIL

POMPE HIGH-LOW
HIGH-LOW PUMPS
ZAHNRADPUMPE HIGH-LOW

La pompa ad ingranaggi con logica HIGH-LOW è una pompa tandem con stadi a cilindrate uguali o diverse ed un blocchetto valvolato per permettere l'esclusione della pompa posteriore. Questa pompa viene utilizzata quando il motore elettrico o termico ha potenza limitata.

PRINCIPIO DI FUNZIONAMENTO: quando è richiesta elevata portata e bassa pressione le due pompe funzionano contemporaneamente, quando è richiesta elevata pressione e bassa portata la pompa posteriore viene esclusa rimandando la propria portata in aspirazione con dissipazione di potenza pressoché nulla.
Questo permette di sfruttare tutta la potenza erogata del motore sulla prima pompa.
La taratura della valvola nella configurazione standard è di 40 bar.

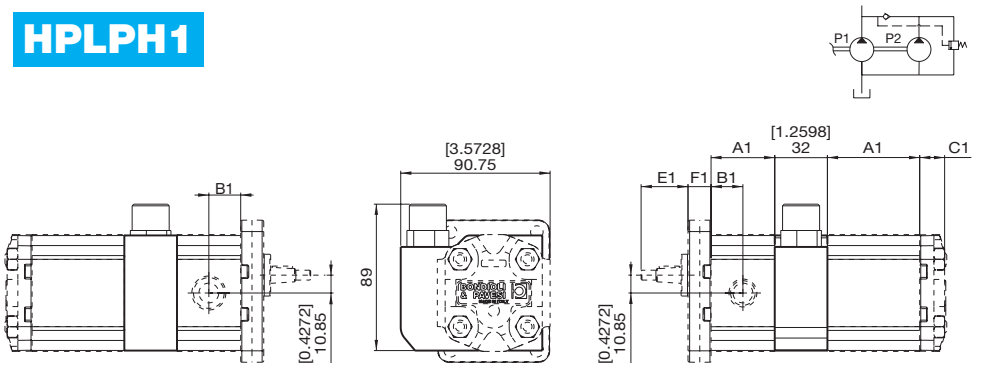
The HIGH-LOW pump is a tandem pump with equal or dissimilar displacements and a section with valves to allow the unloading of the rear pump.
This pump is applied when the main electric or engine motor has limited power.

***WORKING**: when high flow and low pressure is required the flow of both sections is combined at the outlet port, but when high pressure and low flow is required the rear pump is unloaded into the inlet port with negligible adsorbed power.*
This enables the use of all the power supplied by the motor to the first pump. The valve setting in the standard version is 40 bar.

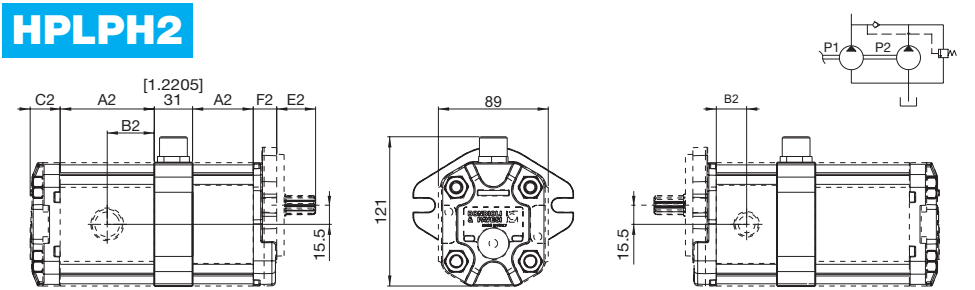
Die Zahnradpumpe mit HIGH-LOW-Logik ist eine Tandempumpe mit 2 gleichen oder unterschiedlichen Fördervolumina und einem integrierten Ventilblock, um die hintere Pumpe abzuschalten.
Diese Lösung wird verwendet, wenn der antreibende Elektro- oder Verbrennungsmotor eine begrenzte Leistung hat.

FUNKTIONSPRINZIP: Wenn besonders große Fördermengen bei niedrigem Druck benötigt werden, arbeiten beide Pumpen gleichzeitig. Bei hohem Druckbedarf und niedriger Fördermenge wird die hintere Pumpe abgeschaltet, indem deren Fördermenge in die Ansaugung der ersten Pumpe geleitet wird. Der Leistungsverlust ist dabei vernachlässigbar.
Auf diese Weise kommt die gesamte verfügbare Motorleistung der ersten Pumpe zugute.
Standardmäßig ist das Ventil auf 40 bar eingestellt.

HPLPH1



HPLPH2



ISTRUZIONI PER L'ORDINAZIONE
ORDERING INSTRUCTIONS
BESTELLANLEITUNG

1° STADIO (Descrizione - *Description* - Benennung)

2° STADIO (Descrizione - *Description* - Benennung)

HPL	PH	1	14	D	D	D	G4 G3	B	1	70	40

SERIE
SERIES
SERIE

PRODOTTO
PRODUCT
PRODUKT
PH - Pompa HIGH-LOW

GRUPPO - *GROUP* - BAUGRÖSSE
1 - 2

CILINDRATA - *DISPLACEMENT*
FÖRDERVOLUMEN

HPL..1		HPL..2	
14 -	1,37	**05** -	4,50
19 -	1,90	**06** -	6,00
24 -	2,53	**08** -	8,50
31 -	3,17	**11** -	11,00
36 -	3,73	**14** -	14,50
44 -	4,35	**17** -	17,00
48 -	4,97	**20** -	19,50
60 -	6,08		
70 -	7,00		
80 -	7,87		

SENSO DI ROTAZIONE
ROTATION
DREHRICHTUNG
D - Oraria/destra
Clockwise
Rechlauf

FLANGIA ANTERIORE
FRONT FLANGE
FLANSCH

HPL..1

D - Europea D 25,4 - *European standard* - EU-Norm.D 95,5
E - Europea D 30 - *European Ø 30* - EU-Norm.D 30
G - Tedesca con OR - *German wih OR* - DIN-Norm. (mit O.R. Dichtung)
J - SAE AA - *SAE AA* - SAE AA

HPL..2

M - Europea - *European* - EU-Norm
N - Tedesca - *German* - DIN-Norm
O - Tedesca D 50 2 fori DX - *German D 50 2 holes right* DIN-Norm D 50 Bohrungen rechts
P - Tedesca D 50 2 fori SX - *German D 50 2 holes left* DIN-Norm D 50 Bohrungen links
R - Tedesca D 52 - *Germ an D 52* - DIN-Norm D 52
S - SAE A 2 fori - *SAE A 2 holes* - SAE A 2 Bohrungen
T - SAE B 2 fori - *SAE B 2 holes* - SAE B 2 Bohrungen
U - Perkins
V - Perkins - *German cast iron* - Din gussversion

ESTREMITÀ D'ALBERO
SHAFT PROFIL
WELLENENDE

HPL..1

D - Conico (1:8)
E - Cilindrico europeo
F - Cilindrico SAE "AA"
G - Conico (1:5)
H - Scanalato 12x9
I - Scanalato SAE "AA"
J - Dente frontale sporgente
K - Dente frontale
T* - Conico high torque (1:8)

D - *Tapered (1:8)*
E - *European parallel shaft*
F - *SAE "AA" parallel shaft*
G - *Tapered (1:5)*
H - *Splined 12x9*
I - *SAE "AA" splined*
J - *Front tooth*
K - *Tang drive*
T* - *Tapered high torque (1:8)*

D - Kegel (1:8)
E - zylindrisch (E-norm)
F - zylindrisch SAE "AA"
G - Kegel (1:5)
H - Keilwelle 12x9
I - Keilwelle SAE "AA"
J - Vorstehendes Kreuzprofil
K - Kreuzprofil
T* - verstärkter Kegel (1:8)

HPL..2

L - Conico (1:8)
M - Conico (1:5)
N - Cilindrico D15 europeo
P - Cilindrico SAE "A"
U - Scanalato DIN 5482
V - Scanalato SAE "A" 9T
X - Scanalato SAE "A" 11T
Y* - Scanalato SAE "B" 13T
Z - Dente frontale

L - *Tapered (1:8)*
M - *Tapered (1:5)*
N - *D15 European parallel shaft*
P - *SAE "A" parallel shaft*
U - *DIN 5482 splined*
V - *SAE "A" 9T splined*
X - *SAE "A" 11T splined*
Y* - *SAE "B" 13T splined*
Z - *Tang drive*

L - Kegel (1:8)
M - Kegel (1:5)
N - zylindrisch (E-norm)
P - zylindrisch SAE "A"
U - Keilwelle DIN 5482
V - Keilwelle SAE "A" 9T
X - Keilwelle SAE "A" 11T
Y* - Keilwelle SAE "B" 13T
Z - Kreuzprofil

SET VALVOLE
VALVE SETTING
VENTILEINSTELLUNG
(bar)

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

GRUPPO
GROUP
BAUGRÖSSE

GUARNIZIONI
SEALS
DICHTUNGEN
B - NBR
V - Viton

BOCCHE STANDARD
***STANDARD PORT* - STANDARD ANSCHLÜSSE**

HPL..1

CILINDRATA
DISPLACEMENT - FÖRDERVOLUMEN

1,4.....4,8	*6.....8*
Pompe - *Pumps* - Pumpen IN/OUT	Pompe - *Pumps* - Pumpen IN/OUT
E3 E3	**E3 E3**
G4 G3	**G4 G4**
X3 X3	**X3 X3**
M4 M2	**M4 M2**
U4 U3	**U4 U4**
T3 H1	**T3 H1**

HPL..2

CILINDRATA
DISPLACEMENT - FÖRDERVOLUMEN

5.....8 | *11*	*14.....20*
Pompe - *Pumps* Pumpen IN/OUT	Pompe - *Pumps* Pumpen IN/OUT
E3 E3	**E5 E3**
G4 G4 **X6 X4**	**G6 G4**
X5 X4	**X6 X4**
U6 U5	**U6 U5**

* Per le cilindrate disponibili rivolgersi all'ufficio tecnico- *Contact tecnichal office for available displacements* - Für die erhältlichen Fördervolumina sich an die technische Abteilung wenden

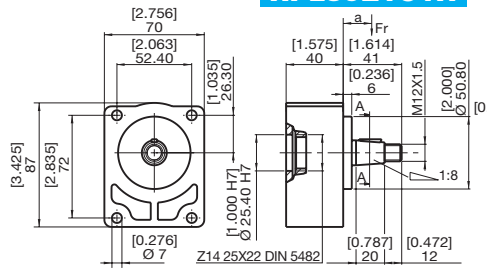
SUPPORTI
SPLINDES
VORSATZLAGER

Per l'utilizzo delle pompe e dei motori in presenza di carichi assiali e/o radiali (trascinamento per mezzo di cinghie o catene e ruote dentate a ingranaggi diritti o elicoidali).
In funzione dell'entità dei carichi esterni sono disponibili diversi tipi di supporti. I diagrammi sottoriportati guidano nella appropriata scelta del supporto. Fornibile separatamente (Cod. HPL5...) o montati sulla Pompa/Motore.

Bearings are suited for using pumps and motors in event of axial and/or radial loads (driving is carried out by means of belts or chains and sprocket wheels with straight-tooth/spiral gear).
Different types of supports are available based on the different types of external load. Refer to the following diagrams to select the proper type of support. Available suparately (Cod. HPL5...) or mounted on the units.

Vorsatzlager werden verwendet, wenn auf die Pumpen/Motoren Axial- und/oder Radiallasten einwirken. Dabei erfolgt die Kraftübertragung über Riemen- oder Kettenantriebe mit geraden oder schräggestellen Zahnrädern.
Je nach Ausmaß der externen Lasten sind verschiedene Lagertypen verfügbar. Die untenstehenden Diagramme dienen als Leitfaden für die richtige Auswahl des Lagers.

HPL5921C1R



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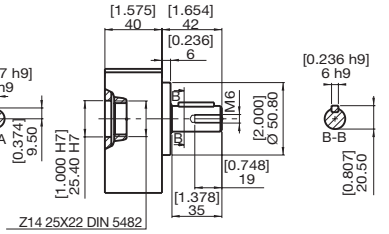
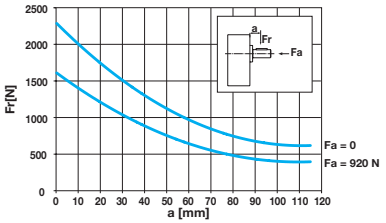
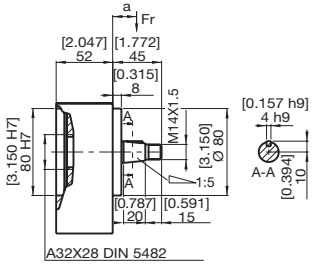




HPL...1 **FLANGIA STANDARD EUROPEA CENTRAGGIO Ø 50,8**
EUROPEAN FRONT FLANGE Ø 50,8
VORSATZLAGER EU-NORM Ø 50,8

HPL5922B1R



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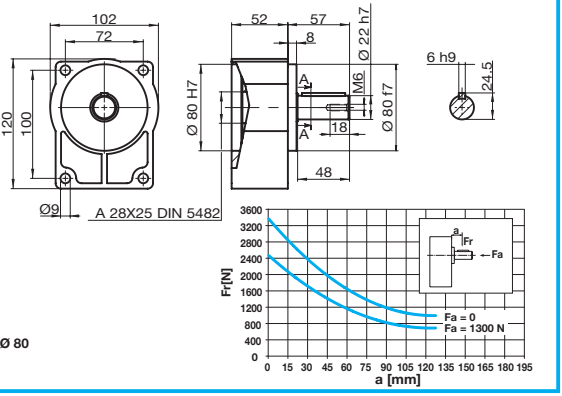
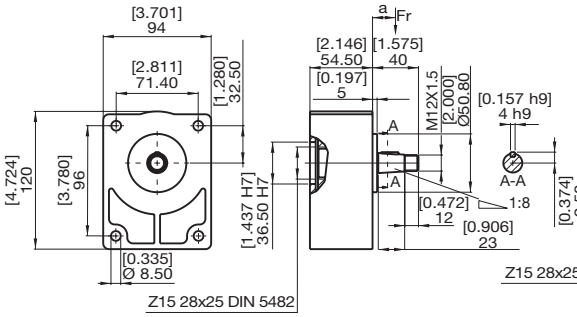
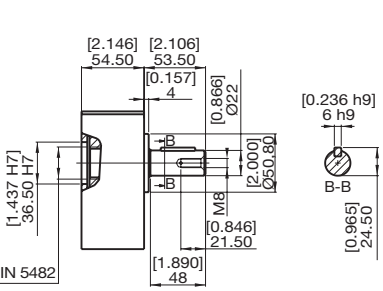


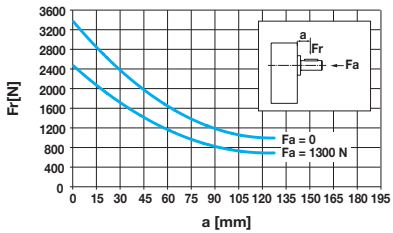
HPL...2 **FLANGIA STANDARD TEDESCA CENTRAGGIO Ø 80**
GERMAN FRONT FLANGE Ø 80
VORSATZLAGER EU-NORM Ø 80

HPL5922C3R



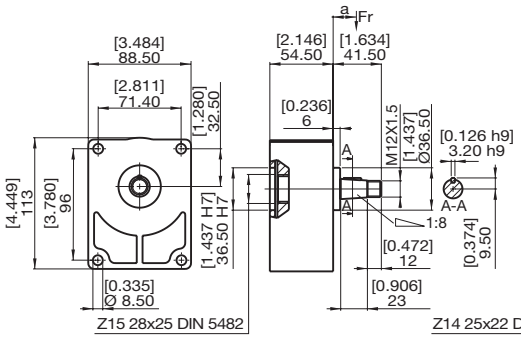
HPL5922C4R



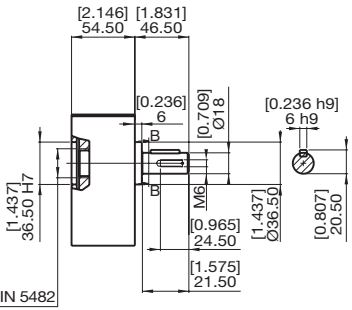


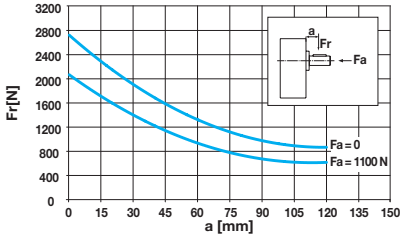
HPL...2 FLANGIA STANDARD EUROPEA CENTRAGGIO Ø 50,8
EUROPEAN FRONT FLANGE Ø 50,8
VORSATZLAGER EU-NORM Ø 50,8

HPL5922C5R



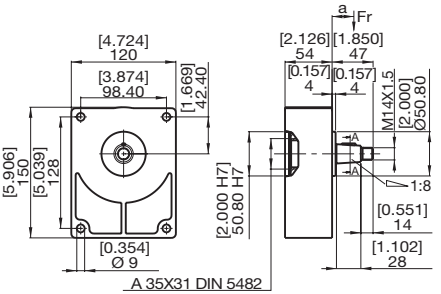
HPL5922C6R





HPL...2 FLANGIA STANDARD EUROPEA CENTRAGGIO Ø 36,5
EUROPEAN FRONT FLANGE Ø 36,5
VORSATZLAGER EU-NORM Ø 36,5

HPL5923C7R



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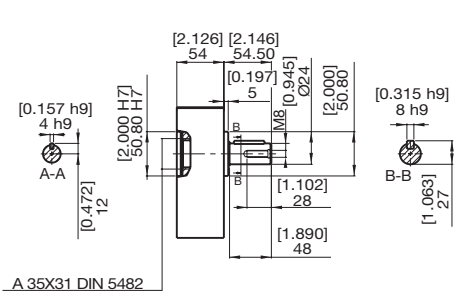
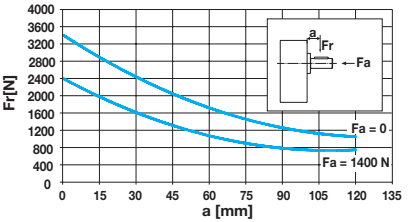
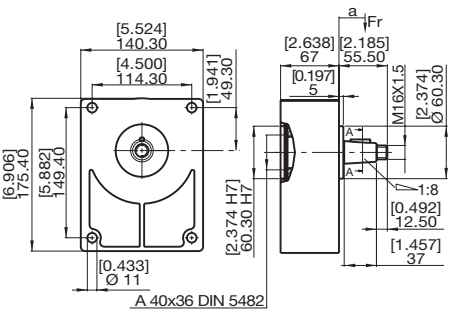




HPL...3 **FLANGIA STANDARD EUROPEA CENTRAGGIO Ø 50,8**
EUROPEAN FRONT FLANGE Ø 50,8
VORSATZLAGER EU-NORM Ø 50,8

HPL5924C9R



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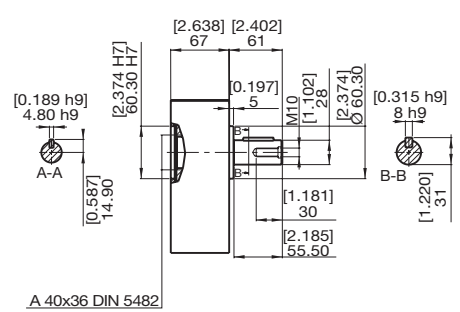
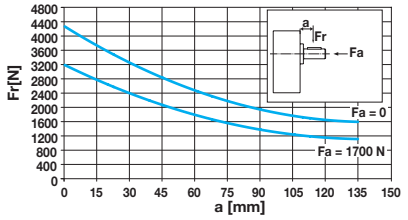
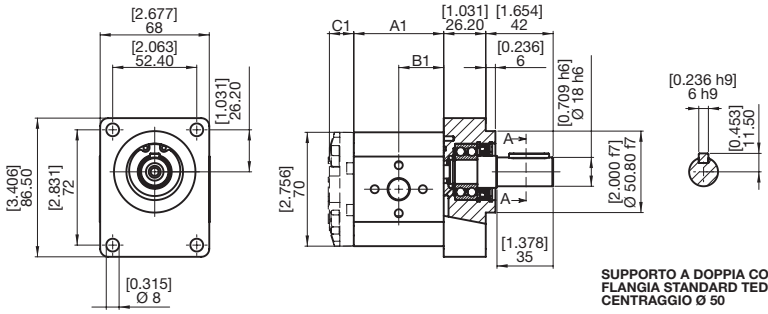




HPL...4 **FLANGIA STANDARD EUROPEA CENTRAGGIO Ø 60,3**
EUROPEAN FRONT FLANGE Ø 60,3
VORSATZLAGER EU-NORM Ø 60,3

I4



HPL...1

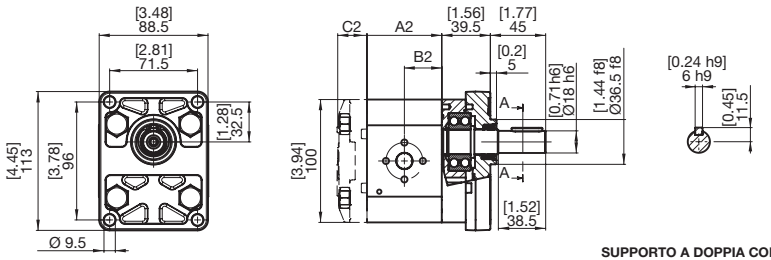
SUPPORTO A DOPPIA CORONA DI SFERE
FLANGIA STANDARD TEDESCA
CENTRAGGIO Ø 50

BEARING SUPPORT
GERMAN FRONT FLANGE Ø 50

VORSATZLAGER MIT KUGELLAGER
DIN-NORM Ø 50

ESTREMITA' D'ALBERO: CILINDRICO
SHAFT AVAILABLE: PARALLEL VERSION
LIEFERBARE WELLENENDEN: ZYLINDRISCH

I1



HPL...2

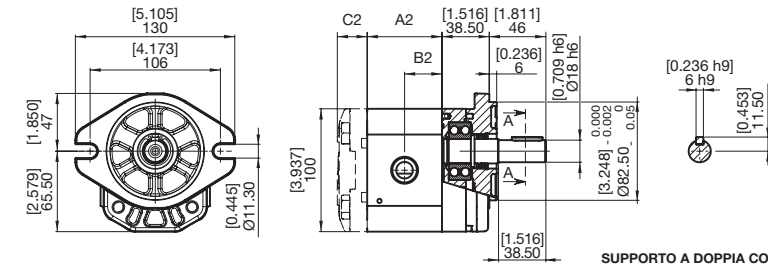
SUPPORTO A DOPPIA CORONA DI SFERE
FLANGIA STANDARD EUROPEA
CENTRAGGIO Ø 36,50

BEARING SUPPORT
EUROPEAN FRONT FLANGE Ø 36,50

VORSATZLAGER MIT KUGELLAGER
EU-NORM Ø 36,50

ESTREMITA' D'ALBERO: CILINDRICO
SHAFT AVAILABLE: PARALLEL VERSION
LIEFERBARE WELLENENDEN: ZYLINDRISCH

I3



HPL...2

SUPPORTO A DOPPIA CORONA DI SFERE
FLANGIA STANDARD SAE A
CENTRAGGIO Ø 82,50

BEARING SUPPORT
SAE A FRONT FLANGE Ø 82,50

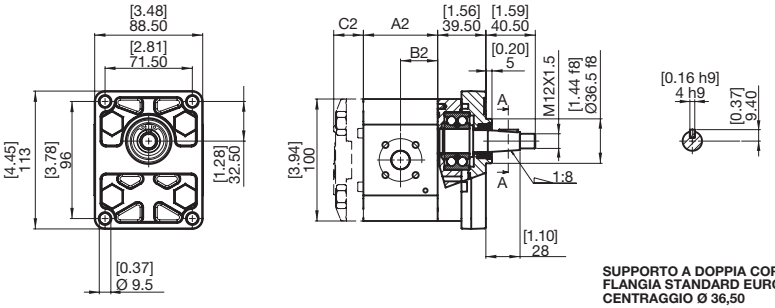
VORSATZLAGER MIT KUGELLAGER
SAE A Ø 82,50

ESTREMITA' D'ALBERO: CILINDRICO
SHAFT AVAILABLE: PARALLEL VERSION
LIEFERBARE WELLENENDEN: ZYLINDRISCH

* NON FORNIBILI SEPARATAMENTE - *NOT SUPPLY SEPARATELY* - SEPARAT NICHT LIEFERBAR

SUPPORTI INTEGRALI *
INTEGRATED SUPPORT *
INTEGRIERTES LAGER *

I7



HPL...2

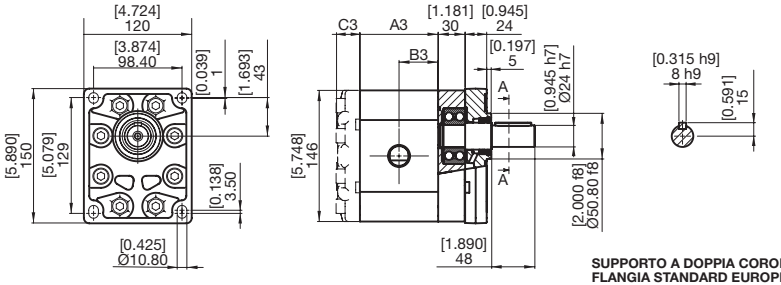
SUPPORTO A DOPPIA CORONA DI SFERE
FLANGIA STANDARD EUROPEA
CENTRAGGIO Ø 36,50

BEARING SUPPORT
EUROPEAN FRONT FLANGE Ø 36,50

VORSATZLAGER MIT KUGELLAGER
EU-NORM Ø 36,50

ESTREMITA' D'ALBERO: CONICO (1:8)
SHAFT AVAILABLE: TAPERED VERSION (1:8)
LIEFERBARE WELLENENDEN:KEGEL (1:8)

I6



HPL...3

SUPPORTO A DOPPIA CORONA DI SFERE
FLANGIA STANDARD EUROPEA
CENTRAGGIO Ø 50,80

BEARING SUPPORT
EUROPEAN FRONT FLANGE Ø 50,80

VORSATZLAGER MIT KUGELLAGER
EU-NORM Ø 50,80

ESTREMITA' D'ALBERO: CILINDRICO
SHAFT AVAILABLE: PARALLEL VERSION
LIEFERBARE WELLENENDEN: ZYLINDRISCH

* NON FORNIBILI SEPARATAMENTE - *NOT SUPPLY SEPARATELY* - SEPARAT NICHT LIEFERBAR

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ISTRUZIONI PER L'ORDINAZIONE
ORDERING INSTRUCTIONS
BESTELLANLEITUNG

HPL | **PA** | **2** | **11** | **D** | **C5**

SERIE
SERIES
SERIE

PRODOTTO
PRODUCT
PRODUKTE

MA - Motore
PA - Pompa singola
PB - Pompa doppia
PC - Pompa tripla

MA - *Motor*
PA - *Pump*
PB - *Double Pump*
PC - *Triple Pump*

MA - Motor
PA - Pumpe
PB - Doppelpumpe
PC - Dreifachpumpe

GRUPPO
GROUP
BAUGRÖSSE

1 - 2 - 3 - 4

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

HPL..1	HPL..2	HPL..3	HPL..4
14 - 1,37	**05** - 4,50	**22** - 21,50	**41** - 41,80
19 - 1,90	**06** - 6,00	**26** - 26,00	**51** - 50,40
24 - 2,53	**08** - 8,50	**31** - 30,50	**61** - 61,00
31 - 3,17	**11** - 11,00	**36** - 36,00	**73** - 72,00
36 - 3,73	**14** - 14,50	**41** - 41,50	**90** - 87,80
44 - 4,35	**17** - 17,00	**47** - 46,50	
48 - 4,97	**20** - 19,50	**51** - 50,50	
60 - 6,08	**26** - 26,00	**56** - 56,00	
70 - 7,00	**34** - 34,00	**61** - 61,50	
80 - 7,87	**40** - 40,50	**73** - 72,50	
		90 - 89,00	

SENSO DI ROTAZIONE
ROTATION
DREHRICHTUNG

S - Antioraria/sinistra
Counterclockwise
Linkslauf

D - Oraria/destra
Clockwise
Rechtslauf

H - Bidirezionale drenaggio interno
Reversible ind drain.
reversibel, Lecköl intern, Anschluß seitlichv

B - Bidirezionale drenaggio esterno posteriore
Reversible rear. drain. pont.
reversibel, Lecköl extern, Anschluß hinten

TIPO DI SUPPORTO
SPINDLE TYPE
VORSATZLAGER

HPL..1

C1 - Conico (1:8) Ø 50,8
C2 - Cilindrico Ø 50,8
I4 - Integrato Cilindrico Ø 50,8

C1 - *Tapered (1:8) Ø 50,8*
C2 - *Parallel shaft Ø 50,8*
I4 - *Integrated Parallel shaft Ø 50,8*

C1 - Kegel (1:8) Ø 50,8
C2 - Zylindrisch Ø 50,8
I4 - integriertes Lager Zylindrisch Ø 50,8

HPL..2

C3 - Conico (1:8) Ø 50,8
C4 - Cilindrico Ø 50,8
C5 - Conico (1:8) Ø 36,5
C6 - Cilindrico Ø 36,5
I1 - Integrato cilindrico Ø 36,5
I3 - Integrato cilindrico Ø 82,5 SAE
I7 - Integrato conico (1:8) Ø 36,5
B1 - Conico (1:5) Ø 80
B3 - Cilindrico Ø 80

C3 - *Tapered (1:8) Ø 50,8*
C4 - *Parallel shaft Ø 50,8*
C5 - *Tapered (1:8) Ø 36,5*
C6 - *Parallel shaft Ø 36,5*
I1 - *Integrated Parallel shaft Ø 36,5*
I3 - *Integrated Parallel shaft Ø 82,5 SAE*
I7 - *Integrated Tapered (1:8) Ø 36,5*
B1 - *Tapered (1:5) Ø 80*
B3 - *Parallel shaft Ø 80*

C3 - Kegel (1:8) Ø 50,8
C4 - Zylindrisch Ø 50,8
C5 - Kegel (1:8) Ø 36,5
C6 - Zylindrisch Ø 36,5
I1 - integriertes Lager Zylindrisch Ø 36,5
I3 - integriertes Lager Zylindrisch Ø 82,5 SAE
I7 - Kegel Zylindrisch (1:8) Ø 36,5
B1 - Kegel (1:5) Ø 80
B3 - Zylindrisch Ø 80

HPL..3

C7 - Conico (1:8) Ø 50,8
C8 - Cilindrico Ø 50,8
I6 - Integrato cilindrico Ø 50,8

C7 - *Tapered (1:8) Ø 50,8*
C8 - *Parallel shaft Ø 50,8*
I6 - *Integrated Parallel shaft Ø 50,8*

C7 - Kegel (1:8) Ø 50,8
C8 - zylindrisch Ø 50,8
I6 - integriertes Lager Zylindrisch Ø 50,8

HPL..4

C9 - Conico (1:8) Ø 60,3
C0 - Cilindrico Ø 60,3

C9 - *Tapered (1:8) Ø 60,3*
C0 - *Parallel shaft Ø 60,3*

C9 - Kegel (1:8) Ø 60,3
C0 - zylindrisch Ø 60,3

POMPE E MOTORI COMPLETI DI SUPPORTO
PUMP OR MOTOR WITH BEARING SUPPORT
PUMPEN UND MOTOREN MIT VORSATZLAGER

G4 G4 | **B** | **ST** | **SET VALVOLE** *VALVE SETTING* **VENTILEINSTELLUNG** (bar)

BOCCHE STD - *STANDARD PORT* - STANDARD ANSCHLÜSSE
CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

HPL..1

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

1,4.....4,8	*6.....8*		*1,4.....4,8*	*6.....8*	
Pompe - *Pumps* Pumpen IN/OUT	Pompe - *Pumps* Pumpen IN/OUT	DRAIN	Pompe - *Pumps* Pumpen IN/OUT	Pompe - *Pumps* Pumpen IN/OUT	DRAIN
E3 E3	E3 E3	M1	U3 U3	U4 U4	U2
G3 G3	G4 G4	G2	T3 H1	T3 H1	-
X3 X3	X3 X3	M1	T3 T3	T4 T3	G2
M4 M2	M4 M2	M1	C3 C3	C4 C3	U2

MOTORI - *MOTORS* - MOTOREN OUT/IN
MOTORI BIDIR. IN=OUT - *REVERS. MOTORS IN=OUT* - BIDIREK.MOTOREN IN=OUT

HPL..2

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

5.....8	*11*	*14.....20*	*26.....40*	
Pompe - *Pumps* -Pumpen IN/OUT		Pompe - *Pumps* -Pumpen IN/OUT	Pompe - *Pumps* -Pumpen IN/OUT	DRAIN
E3 E3		E5 E3	E5 E5	M2
G4 G4		G6 G4	G6 G6	G3
X5 X4	X6 X4	X6 X4	X6 X5	M2
U6 U5		U6 U5	U6 U5	U3
C6 C5		C6 C5	C6 C5	U3
T6 T4		T6 T4	T6 T4	G3

MOTORI - *MOTORS* - MOTOREN OUT/IN
MOTORI BIDIR. IN=OUT - *REVERS. MOTORS IN=OUT* - BIDIREK.MOTOREN IN=OUT

HPL..3

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

22.....31	*36.....61*	*73.....90*	
Pompe - *Pumps* -Pumpen IN/OUT	Pompe - *Pumps* -Pumpen IN/OUT	Pompe - *Pumps* -Pumpen IN/OUT	DRAIN
E5 E5	E7 E5	E8 E7	M3
G6 G6	G7 G6	G8 G7	G3
U7 U6	U8 U7	U8 U7	M3
N7 N6	N7 N6	N7 N6	M3
X8 X7	X8 X7	X8 X7	M3

MOTORI - *MOTORS* - MOTOREN OUT/IN
MOTORI BIDIR. IN=OUT - *REVERS. MOTORS IN=OUT* - BIDIREK.MOTOREN IN=OUT

HPL..4

CILINDRATA - *DISPLACEMENT* - FÖRDER-/SCHLUCKVOLUMEN

41.....61	*73.....90*	
Pompe - *Pumps* -Pumpen IN/OUT	Pompe - *Pumps* -Pumpen IN/OUT	DRAIN
E7 E7	E8 E7	G3
G7 G7	G8 G8	G3
X8 X7	X8 X7	G3

MOTORI - *MOTORS* - MOTOREN OUT/IN
MOTORI BIDIR. IN=OUT - *REVERS. MOTORS IN=OUT* - BIDIREK.MOTOREN IN=OUT

COPERCHI
COVERS
DECKEL

ST - Standard
V.. - Con valvole
(Vedi sez. valvole)
With valves
(See valves section)
Mit Ventilen
(siehe Abschnitt Ventile)
SG - Versione in ghisa
(solo HPL..3, HPL..4)
Version in cast iron
(only HPL..3, HPL..4)
Gussversion
(nur HPL..3, HPL..4)

GUARNIZIONI
SEALS
DICHTUNGEN

B - NBR
R - NBR — alte pres. (25 bar) *high pres. (25 bar)* Hochdruck (25 bar)
V - Viton
W - Viton — alte pres. (25 bar) *high pres. (25 bar)* Hochdruck (25 bar)

KIT ASSEMBLAGGIO POMPE PT
ASSEMBLY KIT (PT PUMPS ONLY)
TANDEM-SATZ (NUR PT-PUMPEN)

Le pompe PT sono pompe singole, che possono essere assemblate rapidamente e facilmente con l'impiego DEGLI APPOSITI KIT.
- HPLKA11STR
per l'assemblaggio di pompe Gruppo 1.
- HPLKA21STR
per l'assemblaggio di pompe Gruppo 2 e 1.
- HPLKA21AMR
per l'assemblaggio di pompe Gruppo 2 e 1 SAE.
- HPLKA21DER
per l'assemblaggio di pompe Gruppo 2 e 1 versione tedesca.
- HPLKA22STR
per l'assemblaggio di pompe Gruppo 2.
- HPLKA33SLR
per l'assemblaggio di pompe Gruppo 3.
-HPLKA32SLR
per l'assemblaggio di pompe Gruppo 3 e 2
-HPLKA31SLR
per l'assemblaggio di pompe Gruppo 3 e 1

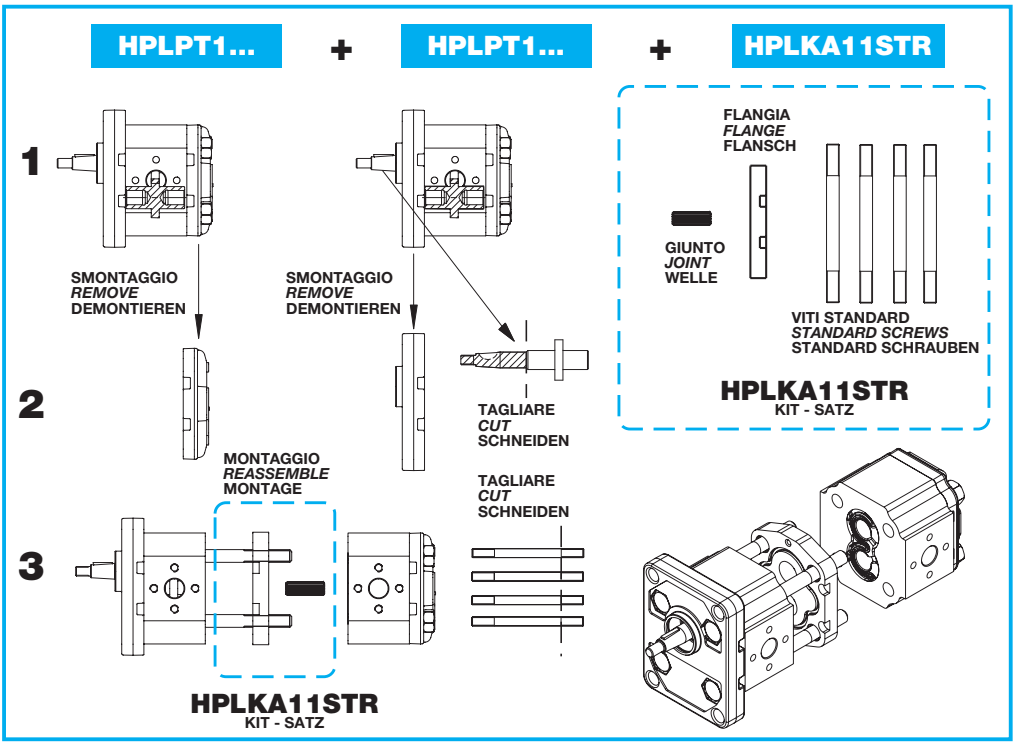
Le fasi schematiche delle operazioni sono riportate di seguito.

PT pumps are single pumps that can be quickly and easily assembled using THE DEDICATED ASSEMBLY KIT.
- HPLKA11STR
Group 1 assembly
- HPLKA21STR
Group 2 and 1 assembly
- HPLKA21AMR
Group 2 and 1 SAE assembly
- HPLKA21DER
Group 2 and 1 German version
- HPLKA22STR
Group 2 assembly
- HPLKA33SLR
Group 3 assembly.
-HPLKA32SLR
Group 3and 1 assembly
-HPLKA31SLR
Group 3 and 1 assembly

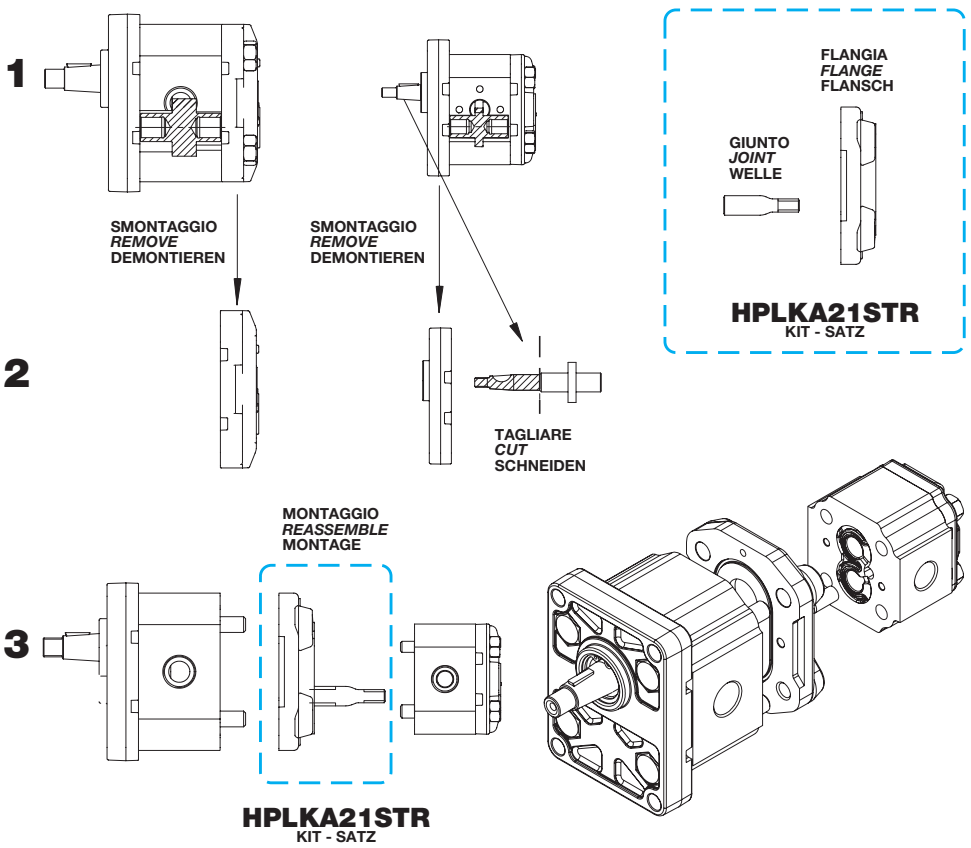
Assembly steps are following described.

Die PT-Pumpen sind Einfachpumpen, die schnell zu Mehrfachpumpen umgebaut werden können, unter Verwendung der dazugehörigen Tandem-Sätze.
- HPLKA11STR Für den Zusammenbau der Pumpen Gruppe 1.
- HPLKA21STR Für den Zusammenbau der Pumpen Gruppe 2 und 1.
- HPLKA21AMR Für den Zusammenbau der SAE-Pumpen Gruppe 2 und 1.
- HPLKA21DER Für den Zusammenbau der Gruppe 2 und 1 Din-Version.
- HPLKA22STR Für den Zusammenbau der Pumpen Gruppe 2.
- HPLKA33SLR
Fur den Zusammenbau der Pompen Gruppe 3
-HPLKA32SLR
Fur den Zusammenbau der Pompen Gruppe 3 und 2
-HPLKA31SLR
Fur den Zusammenbau der Pompen Gruppe 3 und 1

Untenstehend die schematisch dargestellten Montagevorgänge.



HPLPT2... + **HPLPT1...** + **HPLKA21STR**



VERSIONE SAE
SAE VERSION
SAE-VERSION

HPLPT2...
+
HPLPT1...
+
HPLKA21AMR

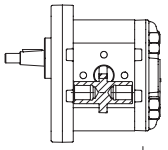
VERSIONE TEDESCA
GERMAN VERSION
DIN-VERSION

HPLPT2...
+
HPLPT1...
+
HPLKA21DER

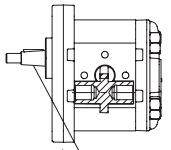
KIT ASSEMBLAGGIO POMPE PT
ASSEMBLY KIT (PT PUMPS ONLY)
TANDEM-SATZ (NUR PT-PUMPEN)

HPLPT2... + **HPLPT2...** + **HPLKA22STR**

1

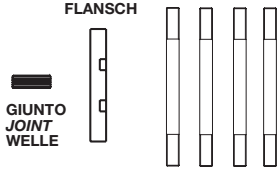


SMONTAGGIO
REMOVE
DEMONTIEREN



SMONTAGGIO
REMOVE
DEMONTIEREN

FLANGIA
FLANGE
FLANSCH

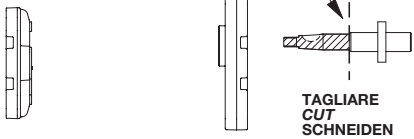


GIUNTO
JOINT
WELLE

VITI STANDARD
STANDARD SCREWS
STANDARD SCHRAUBEN

HPLKA22STR
KIT - SATZ

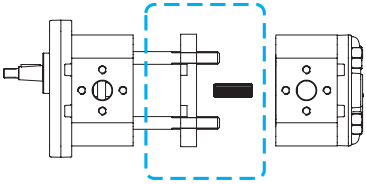
2



TAGLIARE
CUT
SCHNEIDEN

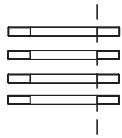
3

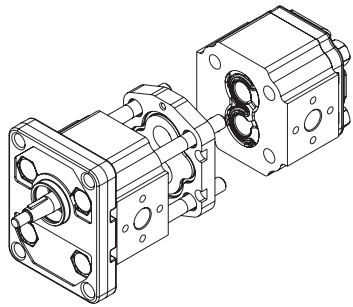
MONTAGGIO
REASSEMBLE
MONTAGE



HPLKA22STR
KIT - SATZ

TAGLIARE
CUT
SCHNEIDEN

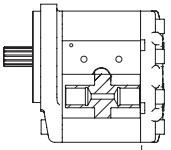




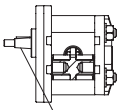
KIT ASSEMBLAGGIO POMPE PT
ASSEMBLY KIT (PT PUMPS ONLY)
TANDEM-SATZ (NUR PT-PUMPEN)

HPLPT3... + **HPLPT1...** + **HPLKA31SLR**

1



SMONTAGGIO
REMOVE
DEMONTIEREN



SMONTAGGIO
REMOVE
DEMONTIEREN

NR.2 VITI M10
NR.2 M10 SCREWS
NR.2 M10 SCHRAUBEN

GIUNTO
JOINT
WELLE

FLANGIA
FLANGE
FLANSCH

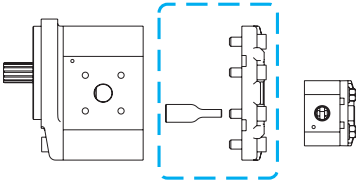
HPLKA31SLR
KIT - SATZ

2

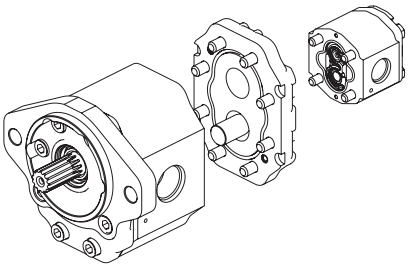
TAGLIARE
CUT
SCHNEIDEN

3

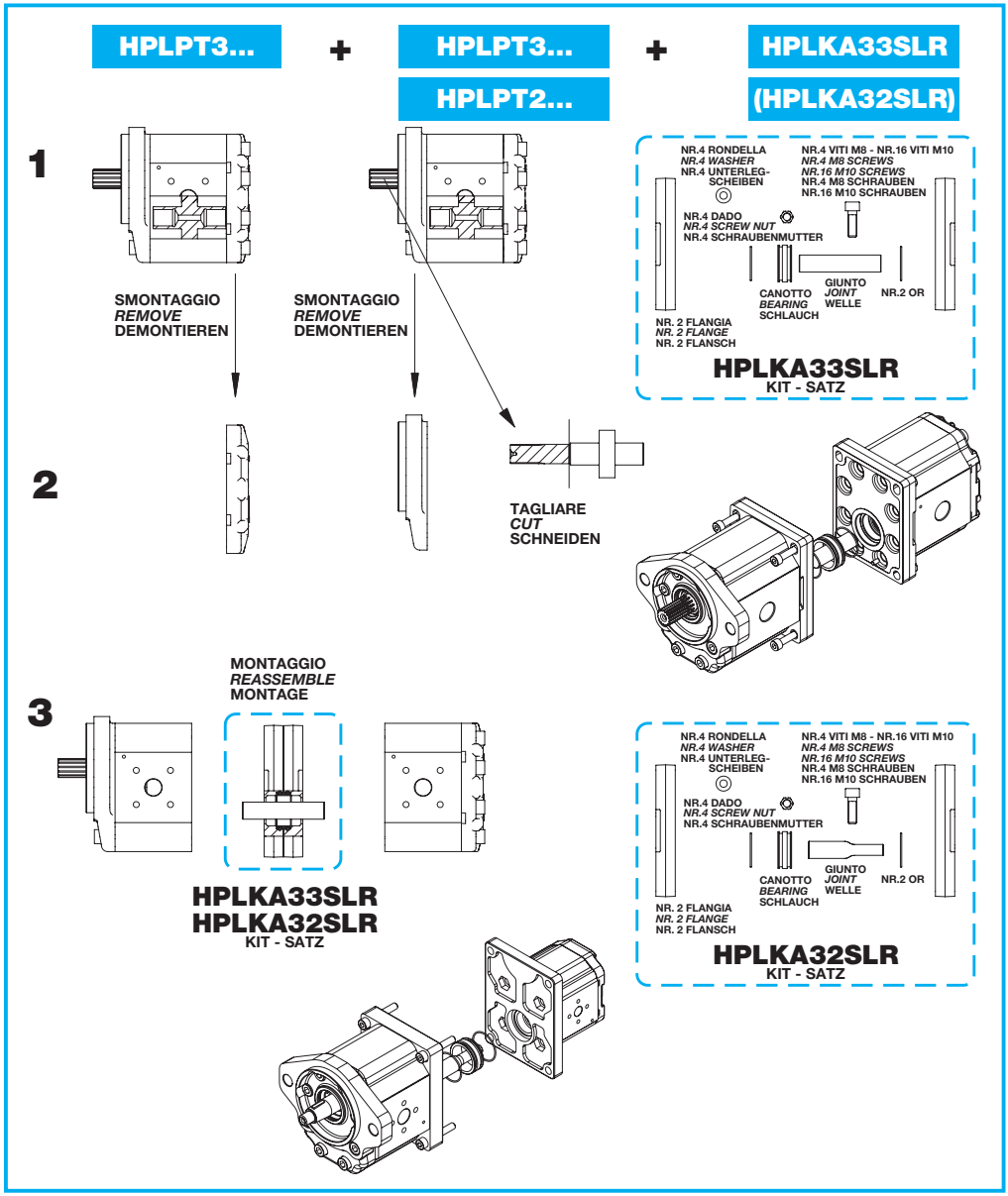
MONTAGGIO
REASSEMBLE
MONTAGE



HPLKA31SLR
KIT - SATZ



KIT ASSEMBLAGGIO POMPE PT
ASSEMBLY KIT (PT PUMPS ONLY)
TANDEM-SATZ (NUR PT-PUMPEN)



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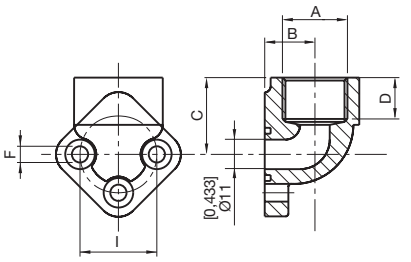
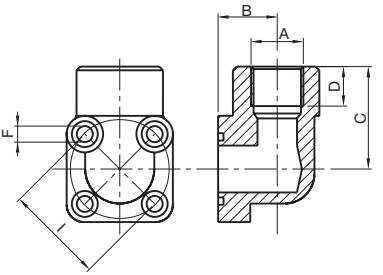
RACCORDI A GOMITO
UNION ELBOW
WINKELVERBINDUNGEN

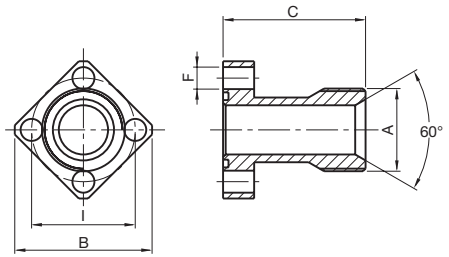


TIPO *TYPE* TYP	DESCRIZIONE *DESCRIPTION* BEZEICHNUNG	A	B		C		D		I		F	
			mm	in	mm	in	mm	in	mm	in	mm	in
HPL5767E0G31R	GR.RG 26x12 G3/8"	3/8"	16,0	0,63	26	1,02	14	0,56	26	1,02	5,50	0,22
HPL5767E0G41R	GR.RG 26x12 G1/2"	1/2"	16,0	0,63	26	1,02	14	0,56	26	1,02	5,50	0,22
HPL5767E3G31R	GR.RG 30x13.5 G3/8"	3/8"	17,5	0,69	26	1,02	14	0,56	30	1,18	6,50	0,26
HPL5767E3G41R	GR.RG 30x13.5 G1/2"	1/2"	17,5	0,69	26	1,02	14	0,56	30	1,18	6,50	0,26
HPL5767E4G61R	GR.RG 40x20 G3/4"	3/4"	21,0	0,82	36	1,42	16	0,60	40	1,58	8,50	0,33
HPL5767E7G71R	GR.RG 51x27 G1"	1"	27,0	1,06	43	1,70	21	0,80	51	2,00	1,05	4,13
HPL5767E8G81R	GR.RG 62x34 G1 1/4"	1 1/4"	34,5	1,36	55	2,17	27	1,06	62	2,45	10,5	4,13
HPL5767E4G41R	GR.RG 40x20 G1/2"	1/2"	21,0	0,83	36	1,42	16	0,63	40	1,58	8,50	0,33
HPL5767E0M41R	GR.RG 26x12 M18x1.5	18X1.5	17,5	0,69	26	1,02	14	0,56	26	1,02	5,50	0,22
HPL5767E3M41R	GR.RG 30x13.5 M18x1.5	18X1.5	17,5	0,69	26	1,02	14	0,56	30	1,18	6,50	0,26



TIPO *TYPE* TYP	DESCRIZIONE *DESCRIPTION* BEZEICHNUNG	A	B		C		D		I		F	
			mm	in	mm	in	mm	in	mm	in	mm	in
HPL5767X3G31R	GR.R.GB 30x13 3/8"	3/8"	18	0,70	40,0	1,58	16	0,63	30	1,18	6,5	0,22
HPL5767X3G41R	GR.R.GB 30x13 1/2"	1/2"	18	0,70	40,0	1,58	16	0,63	30	1,18	6,5	0,22
HPL5767X4G31R	GR.R.GB 35x13 3/8"	3/8"	18	0,70	40,0	1,58	16	0,63	35	1,38	6,5	0,22
HPL5767X4G41R	GR.R.GB 35x13 1/2"	1/2"	18	0,70	40,0	1,58	16	0,63	35	1,38	6,5	0,22
HPL5767X6G61R	GR.R.GB 40x19 3/4"	3/4"	24	0,95	41,5	1,63	16	0,63	40	1,58	6,5	0,22
HPL5767X6G41R	GR.R.GB 40x19 1/2"	1/2"	24	0,95	41,5	1,63	16	0,63	40	1,58	6,5	0,22
HPL5767X3M41R	GR.R.GB 30x13 M18x1.5	18X1.5	18	0,70	40,0	1,58	16	0,63	30	1,18	6,5	0,22

RACCORDI DIRITTI
STRAIGHT UNION
GERADE VERBINDUNGEN



TIPO *TYPE* TYP	DESCRIZIONE *DESCRIPTION* BEZEICHNUNG	A	B		C		I		F	
			mm	in	mm	in	mm	in	mm	in
HPL5767E3G42R	GR.RD 30x13.5 (1/2")	1/2"	46	1,81	35	1,38	30	1,18	6,5	0,26
HPL5767E5G42R	GR.RD 40x20 (3/4")	3/4"	53	2,09	40	1,58	40	1,58	8,5	0,33
HPL5767E7G42R	GR.RD 51x27 (1")	1"	73	2,88	55	2,17	51	2,00	10,5	4,13
HPL5767E8G42R	GR.RD 62x34 (1 1/4")	1 1/41"	86	3,39	70	2,76	62	2,45	10,5	4,13
HPL5767E0M42R	GR.RD 26x12 M18x1.5	18X1.5	46	1,81	35	1,38	26	1,81	6,5	0,26

NOTA: I raccordi vengono forniti completi di viti, rondelle e guarnizioni OR.

NOTE: *Connectors are supplied complete with bolts, washers and O-rings.*

BEMERKUNG: Die Verbindungen werden komplett mit Schrauben, U-Scheiben und O-Ringen geliefert.

KIT GUARNIZIONI
SEALS KIT
DICHTUNGSSÄTZE

TIPO *TYPE* TYP	DESCRIZIONE	*DESCRIPTION*	BENENNUNG
HPL48670PAUNB00R05	GRUPPO 05 POMPA NBR	*GROUP 05 NBR PUMP/MOTOR*	BAUGRÖSSE 5 NBR PUMPE UND MOTOR
HPL48671PAUNB00R05	GRUPPO 1 POMPA NBR	*GROUP 1 PUMP NBR*	BAUGRÖSSE 1 NBR PUMPE
HPL48671PAUNV00R05	GRUPPO 1 POMPA VITON	*GROUP 1 PUMP VITON*	BAUGRÖSSE 1 VITON PUMPE
HPL48671PAUNB01R05	GRUPPO 1 BOSCH POMPA NBR	*GROUP 1 BOSCH NBR*	BAUGRÖSSE 1 BOSCH NBR PUMPE
HPL48671MARVB01R05	GRUPPO 1 BOSCH MOTORE BID.	*GROUP 1 BOSCH MOTOR NBR*	BAUGRÖSSE 1 BOSCH NBR MOTOR
HPL48671MARVB00R05	GRUPPO 1 MOTORE BID. NBR	*GROUP 1 MOTOR NBR*	BAUGRÖSSE 1 NBR MOTOR
HPL48671MARVV00R05	GRUPPO 1 MOTORE BID. VITON	*GROUP 1 MOTOR VITON*	BAUGRÖSSE 1 VITON MOTOR
HPL48672PAUNB00R05	GRUPPO 2 POMPA/MOTORE NBR	*GROUP 2 PUMP/MOTOR NBR*	BAUGRÖSSE 2 PUMPE UND MOTOR NBR
HPL48672PAUNB01R05	GRUPPO 2 ALTE PRESS.POMPA/	*GROUP 2 HIGH PRESS PUMP/MOTOR NBR*	BAUGRÖSSE 2 HOCHDRUCK NBR PUMPE UND MOTOR
HPL48672PAUNV00R05	GRUPPO 2 POMPA/MOTORE VITON	*GROUP 2 PUMP/MOTOR VITON*	BAUGRÖSSE 2 PUMPE UND MOTOR
HPL48673PAUNB00R05	GRUPPO 3/4 POMPA NBR	*GROUP 3/4 PUMP NBR*	BAUGRÖSSE 3/4 NBR PUMPE
HPL48673MARVB00R05	GRUPPO 3/4 MOTORE NBR	*GROUP 3/4 MOTOR NBR*	BAUGRÖSSE 3/4 NBR MOTOR
HPL48673PAUNV00R05	GRUPPO 3/4 POMPA VITON	*GROUP 3/4 PUMP VITON*	AUGRÖSSE 3/4 VITON PUMPE

GIUNTI E SEMIGIUNTI PER SUPPORTI
HUBS AND HALF HUBS FOR SPLINDES
KUPPLUNGEN UND HALBKUPPLUNGEN FÜR VORSATZLAGER

TIPO *TYPE* TYP	DESCRIZIONE	*DESCRIPTION*	BENENNUNG
HPL21000007010R05	GR.1 SEMIG.(25X22 Z=14) TC C1-C2	*GR.1 HALF HUB (25X22 Z=14) TC C1-C2*	GR.1 HALBKUP (25X22 Z=14) TC C1-C2
HPL00020045140R05	GR.1 GIUNTO PER ALBERO K	*GR.1 HUB FOR SHAFT K*	GR.1 KUPPLUNG FÜR WELLE K
HPL21000008010R05	GR.2 SEMIG.(28X25 Z=15) TC C3-C4	*GR.2 HALF HUB (28X25 Z=15) TC C3-C4*	GR.2 HALBKUP (28X25 Z=15) TC C3-C4
HPL21000010010R05	GR.2 SEMIG.(32X28 Z=17) TC B1	*GR.2 HALF HUB (32X28 Z=17) TC B1*	GR.2 HALBKUP (32X28 Z=17) TC B1
HPL21000002010R05	GR.2 SEMIG.(25X22 Z=14) TC C5-C6	*GR.2 HALF HUB (25X22 Z=14) TC C5-C6*	GR.2 HALBKUP (25X22 Z=14) TC C5-C6
HPL00020045240R05	GR.2 GIUNTO PER ALBERO Z	*GR.2 HUB FOR SHAFT Z*	GR.2 KUPPLUNG FÜR WELLE Z
HPL21000003010R05	GR.3 SEMIG.(35X31 Z=18) TC C7-C8	*GR.3 HALF HUB (35X31 Z=18) TC C7-C8*	GR.3 HALBKUP (35X31 Z=18) TC C7-C8
HPL21000004010R05	GR.4 SEMIG.(40X36 Z=20) TC C9-C0	*GR.4 HALF HUB (40X36 Z=20) TC C9-C0*	GR.4 HALBKUP (40X36 Z=20) TC C9-C0