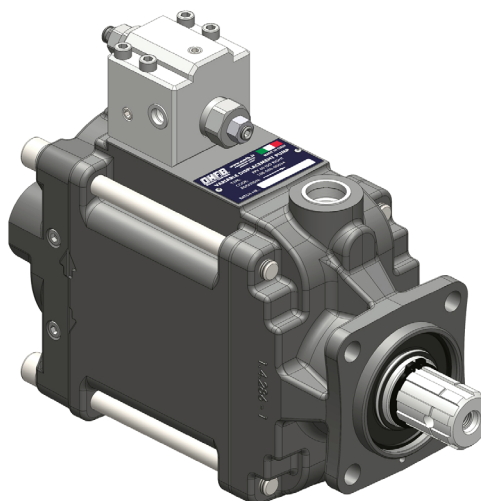


**POMPE A CILINDRATA
VARIABILE
VARIABLE DISPLACEMENT
PUMPS**

PPV

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CILINDRATA
VARIABILE
VARIABLE
DISPLACEMENT
PUMPS**

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OMFB

HYDRAULIC COMPONENTS

O.M.F.B. S.p.a. Hydraulic Components

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CODIFICA VERSIONI VERSIONS CODING

COME COMPORRE L'ORDINE / HOW TO ORDER

CODICE POMPA PUMP CODE	+	RACCORDO ASPIRAZIONE SUCTION FITTING	+	VERSIONE FLANGIA E ALBERO (solo versioni tandem cod. B=3 o 5) FLANGE AND SHAFT VERSION (only tandem versions code B=3 o 5)
650XXXXXXXXX		15511200507 (pag. 39)		11465000100 (pag. 33)
651XXXXXXXXX				

FFFSTBDDRRX

Famiglia / Family

FFF	ISO 7653 4 fori/holes ø 80	650
	SAE C 4 fori/holes - ISO 3019-1 127-4 l=114.5	651

Albero / Shaft

S	DIN 5462 8x32x36 (ISO 14)	1
	SAE C - 14T 12/24 32-4	2

Porte / Ports

T	BSPP (GAS)	1
	UNF	5

Fondello posteriore / Rear cover

B	AX Assiale / Axial - (STANDARD)	1	
	RV Radiale verticale non passante - Radial/vertical standard	2	
	PV Radiale verticale passante - Radial/vertical thru shaft	3	(Tandem)
	RO Radiale orizzontale SAE non passante - SAE Radial/horizontal standard	4	
	PO Radiale orizzontale SAE passante - SAE Radial/horizontal thru shaft	5	(Tandem)

Cilindrata / Displacement

DD	60 cc	06
	90 cc	09
	110 cc	11
	130 cc	13

Regolatore / Control

RR	LS Load sensing	LS
	Pressione idraulica / Hydraulic pressure	PI
	Pressione elettrica / Electric pressure	PE
	Regolatore a potenza costante / Power control	PW

Rotazione - Limitazione cilindrata Rotation - Displacement adjustment

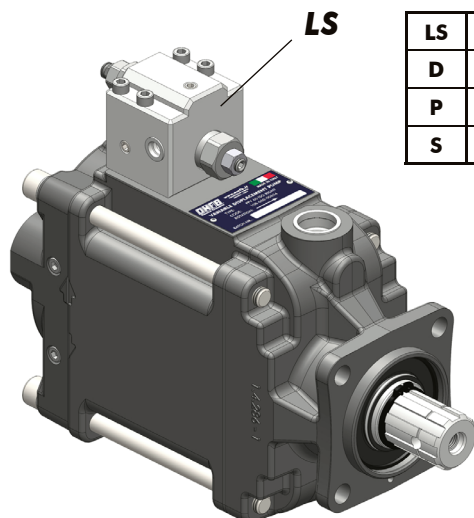
X	DESTRA nessuna limitazione / RIGHT no adjustment	1	
	DESTRA con limitazione / RIGHT with adjustment	2	(Adjustable)
	SINISTRA nessuna limitazione / LEFT no adjustment	6	
	SINISTRA con limitazione / LEFT with adjustment	7	(Adjustable)

La versione **ADJUSTABLE**, prevede una vite di regolazione posteriore che limita la cilindrata della pompa a valori inferiori a quella nominale.
The **ADJUSTABLE** version consists of a rear setting screw that limits the displacement of the pumps to lower values than the nominal one.

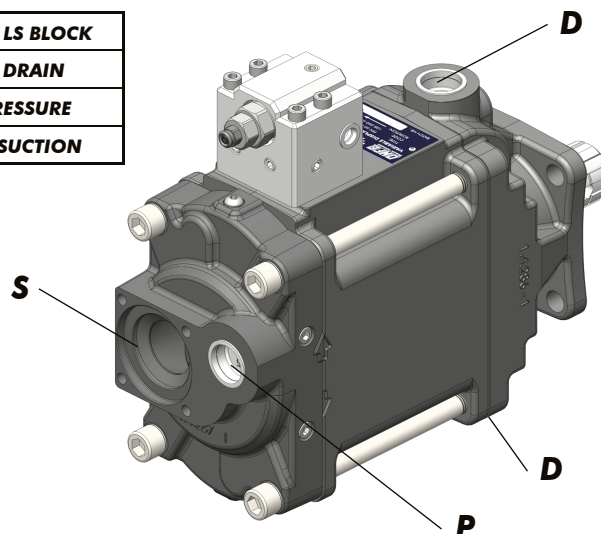
POMPE A CILINDRATA VARIABILE VARIABLE DISPLACEMENT PUMPS

FAMIGLIA
FAMILY

PPV 60
PPV 90
PPV 110
PPV 130

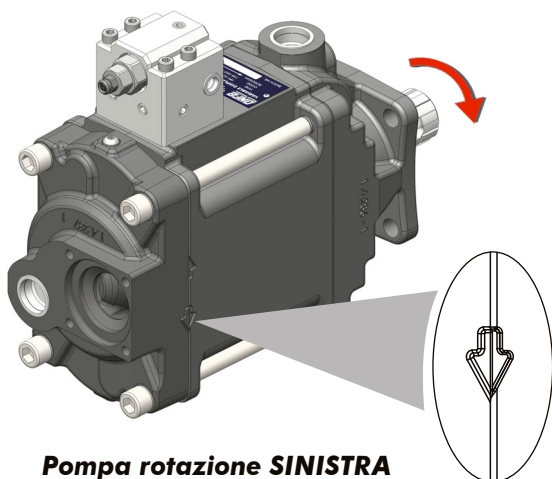


LS	BLOCCHETTO LS / LS BLOCK
D	DRENAGGIO / DRAIN
P	PRESSIONE / PRESSURE
S	ASPIRAZIONE / SUCTION

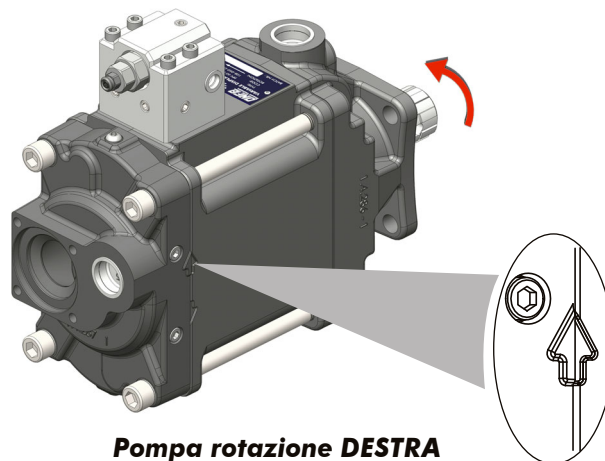


La pompa a pistoni assiali a cilindrata variabile OMFB è di tipo a piatto oscillante. La cilindrata della pompa dipende dalla corsa dei pistoni pompanti, che a sua volta dipende dall'inclinazione del piatto oscillante. La pompa all'avviamento si trova in cilindrata massima per effetto di due molle che spingono il piatto oscillante. La cilindrata della pompa viene ridotta agendo su due pistoni comandati idraulicamente in grado di vincere la forza delle molle. Un corpo cilindri ruota solidale con l'albero e costringe i pistoni a ruotare anch'essi alla stessa velocità dell'albero ed a compiere il percorso circolare sul piatto oscillante che ne provoca il movimento alternativo. La pompa in questo modo è in grado di erogare portata dal valore massimo fino ad un valore nullo. La variazione della cilindrata è comandata dal regolatore che si trova montato sulla pompa stessa. Sono pompe adatte a funzionare in circuito aperto. Permettono di avere tempi di reazione brevi e, grazie alla loro larghezza ridotta, il montaggio diretto sulle prese di forza (PTO) dei veicoli commerciali. In fase d'ordine è necessario specificare il senso di rotazione della pompa.

The OMFB variable displacement axial piston pump has got a swash plate. The displacement of the pump depends on the stroke of the pistons, which is determined by the inclination of the swash plate. At the start, the pump is at its maximum displacement position because of the springs pushing against the swash plate. The displacement of the pump is reduced by means of two pistons hydraulically operated that win the force of the springs. The cylinders block rotates together with the shaft forcing the pistons to rotate at the same speed of the shaft and make a circular path on the swash plate that causes the reciprocating movement. In this way, the pump is able to deliver from the maximum to zero flow rate. The variation of the displacement is controlled by a regulator, which is fitted on the pump itself. These pumps are designed to operate in open circuit. They allow very quick reaction time and thanks to its compact size they can be coupled directly onto PTO's of commercial vehicles. When ordering please specify the required direction of rotation.



Pompa rotazione SINISTRA
LEFT Hand rotating pump



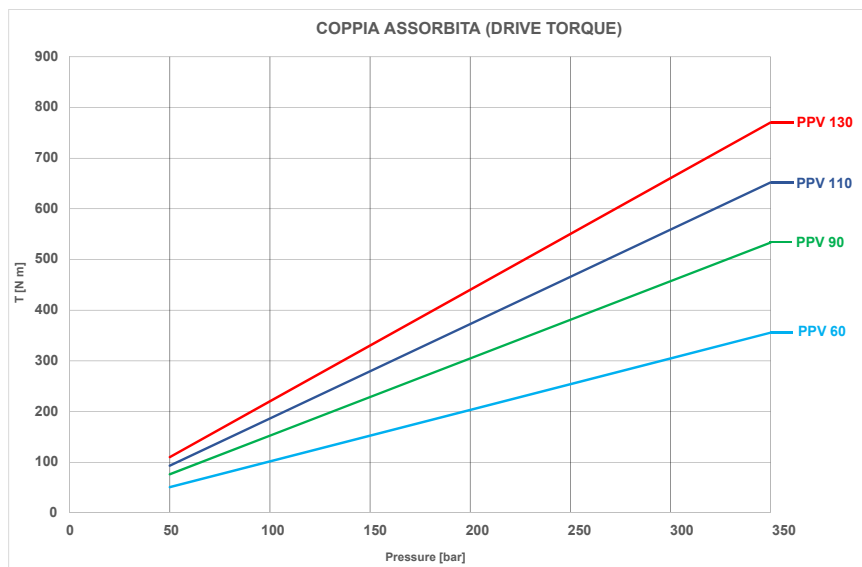
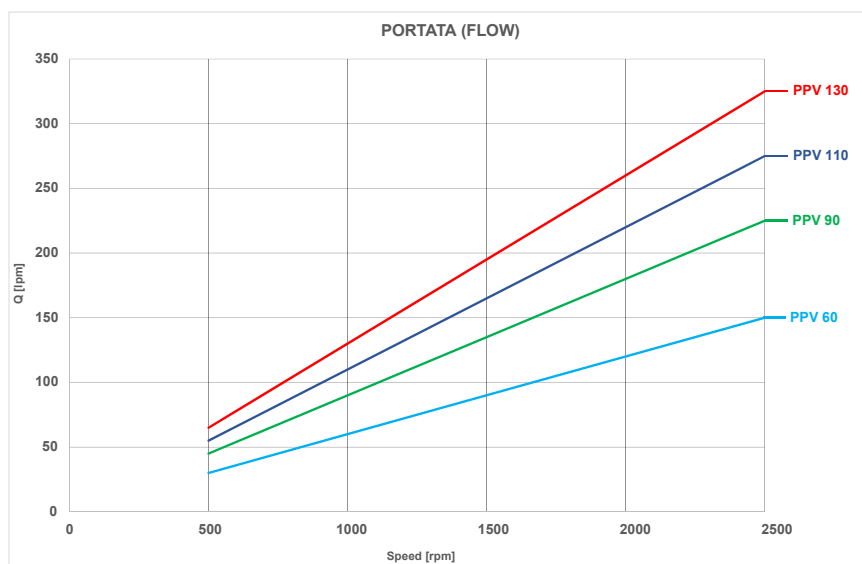
Pompa rotazione DESTRA
RIGHT Hand rotating pump

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POMPE A CILINDRATA VARIABILE / VARIABLE DISPLACEMENT PUMPS

DATI TECNICI / TECHNICAL FEATURES	PPV60		PPV90		PPV110		PPV130	
Portata / Flow	60 l/min.		90 l/min.		110 l/min.		130 l/min.	
Angolo di regolazione massima / Max. swash plate angle	21,5°							
Pressione di lavoro / Working pressure	Continua Continuous	Intermittente Intermittent	Continua Continuous	Intermittente Intermittent	Continua Continuous	Intermittente Intermittent	Continua Continuous	Intermittente Intermittent
	375 bar	400 bar	375 bar	400 bar	375 bar	400 bar	375 bar	400 bar
Pressione d'ingresso assoluta necessaria nel circuito aperto Absolute inlet pressure required in open circuit	0,85 bar							
Pressione massima ammissibile sul corpo (statica/dinamica) Max. permissible housing pressure (static/dynamic)	1 bar		3 bar					
Pressione d'ingresso massima ammissibile Max. permissible inlet pressure (static/dynamic)	2 bar							
Numero di giri max. con angolo di regolazione max.a una pressione d'ingresso assoluta di 1 bar. / Max. speed during suction operation and max. swash plate angle at 1 bar abs. Inlet pressure	2500 rpm		2300 rpm		2200 rpm		2100 rpm	
Numero giri max. in annullamento e pressione d'ingresso assoluta 1 bar. / Max. speed with zero stroke and 1 bar abs. Inlet pressure	3000 rpm							
Numero di giri minimo in funzionamento continuo Min. speed in continuous operation	500 rpm							
Coppia motrice necessaria a 100 bar Required drive torque at 100 bar	100 Nm		150 Nm		185 Nm		220 Nm	
Potenza motrice a 250 bar e 2.000 rpm Drive power at 250 bar and 2000 rpm	53 kW		80 kW		100 kW		145 kW	
Peso / Weight	24 Kg		29 Kg		30 Kg		27 Kg	



La versione **ADJUSTABLE**, prevede una vite di regolazione posteriore che limita la cilindrata massima della pompa a valori inferiori a quella nominale.

The **ADJUSTABLE** version consists of a rear setting screw that limits the max. displacement of the pumps to lower values than the nominal one.

CILINDRATA / DISPLACEMENT 60cc

Campo regolazione cilindrata Displacement limitation range	40 - 60 cm ³
Limitazione della cilindrata Displacement limitation range	4,3 cm ³ /rev

CILINDRATA / DISPLACEMENT 90cc

Campo regolazione cilindrata Displacement limitation range	55 - 90 cm ³
Limitazione della cilindrata Displacement limitation range	5,7 cm ³ /rev

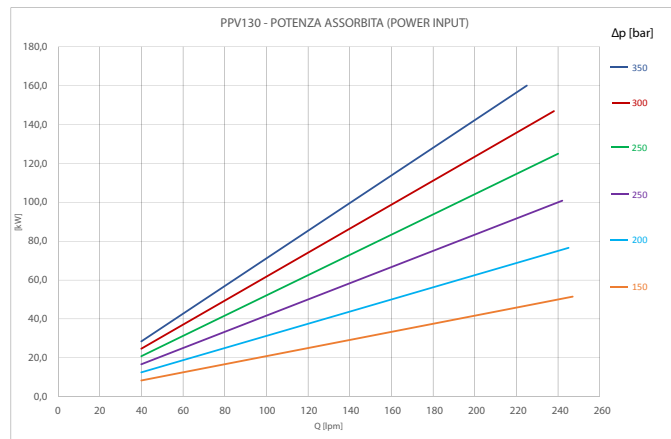
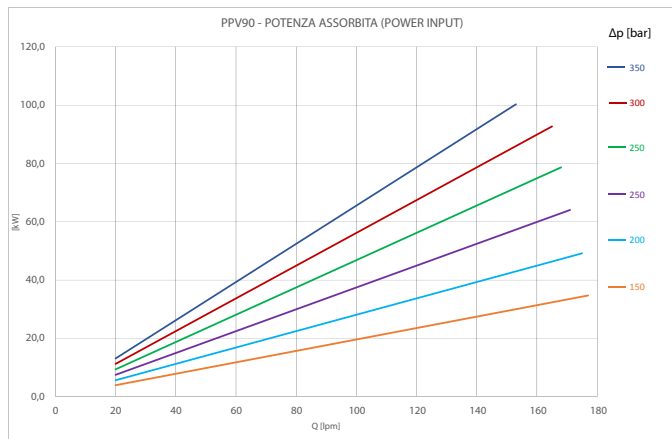
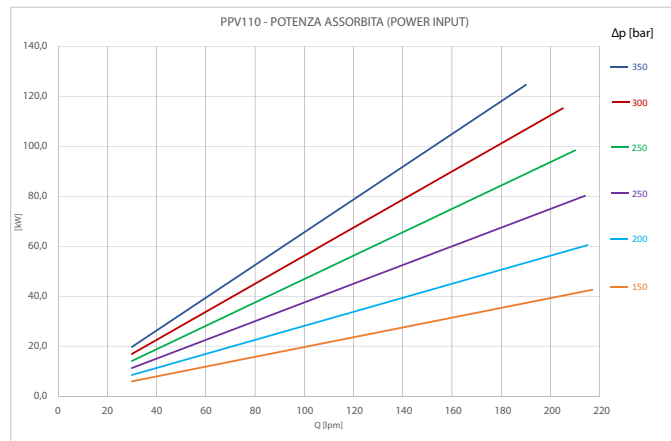
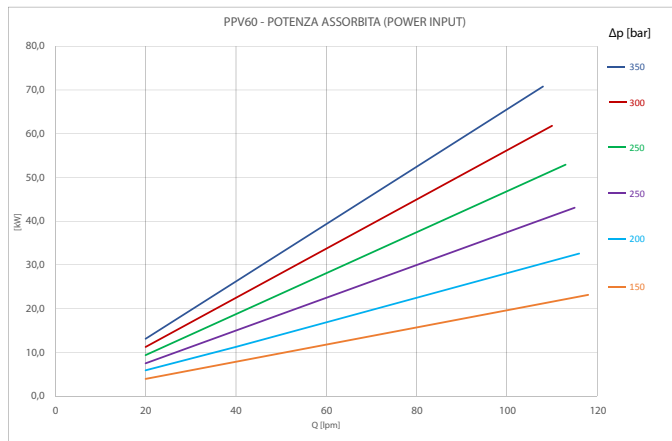
CILINDRATA / DISPLACEMENT 110cc

Campo regolazione cilindrata Displacement limitation range	85 - 110 cm ³
Limitazione della cilindrata Displacement limitation range	6,6 cm ³ /rev

CILINDRATA / DISPLACEMENT 130cc

Campo regolazione cilindrata Displacement limitation range	90 - 130 cm ³
Limitazione della cilindrata Displacement limitation range	12 cm ³ /rev

POMPE A CILINDRATA VARIABILE / VARIABLE DISPLACEMENT PUMPS



Fluido idraulico / Fluid	Minerale o sintetico compatibile con guarnizioni: Mineral or synthetic compatible with the following seals: HNBR				
Temperatura di lavoro / Working temperature	-32 +80 °C				
Temperatura ambiente / Ambient temperature	-40 +60 °C				
Viscosità cinematica consigliata Kinematic viscosity suggested	T media ambiente (°C) Average ambient temp. (°C)	< -40	-40 ÷ 10	10 ÷ 35	> 35
	VG (cSt = mm²/s)	16	22	32	46
Viscosità cinematica ottimale di esercizio / Optimal kinematic viscosity			VG= 10 cSt ÷ 100 cSt		
Viscosità cinematica max consentita all'avviamento / Max kinematic viscosity suggested at the start-up			VG= 750 cSt		
Indice di viscosità consigliato / Viscosity index suggested			VI > 100		

Filtrazione / Filtration			
Pressione di lavoro / Working pressure (bar)	ΔP<140	140<ΔP<210	ΔP>210
Contaminazione classe NAS 1638 Contamination class NAS 1638	9	8	7
Contaminazione classe ISO 4406-1999 Contamination class ISO 4406-1999	20/18/15	19/17/14	18/16/13
Da ottenere con filtro βx >75 secondo ISO 16889 To be obtained with filter βx >75 according ISO 16889	10 μm		

Grandezze nominali
Nominal values

Portata
Flow

$$Q [lpm] = \frac{V \cdot n \cdot \eta_v}{1000}$$

Coppia motrice
Torque

$$T [N \cdot m] = \frac{V \cdot \Delta p}{20 \cdot \pi \cdot \eta_{hm}}$$

Potenza motrice
Power

$$P [kW] = \frac{2 \cdot \pi \cdot T \cdot n}{60000} = \frac{Q \cdot \Delta p}{600 \cdot \eta_{tot}}$$

FORMULE / FORMULAS

V = cilindrata [cm³ / rev] / displacement

Δp = salto di pressione [bar] / pressure drop

n = velocità di rotazione [rpm] / rotation speed

η_v = rendimento volumetrico / volumetric efficiency

η_{hm} = rendimento idro-meccanico / hydro-mechanic efficiency

η_{tot} = η_v x η_{hm} = rendimento totale / overall efficiency

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HYDRAULIC COMPONENTS

O.M.F.B. S.p.a. Hydraulic Components

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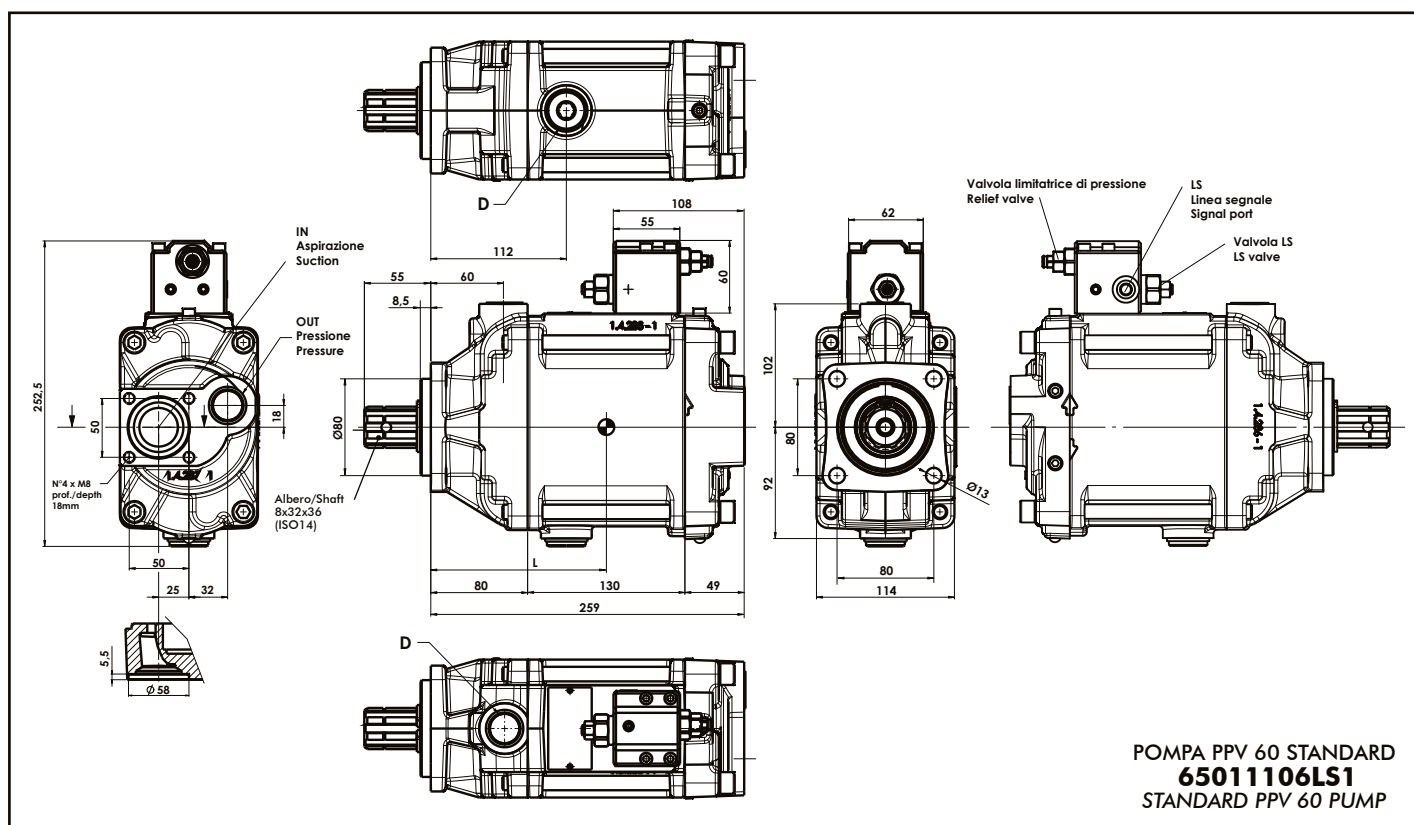
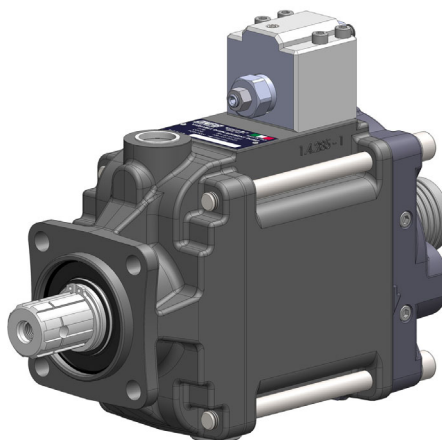
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POMPA A CILINDRATA VARIABILE VARIABLE DISPLACEMENT PUMP

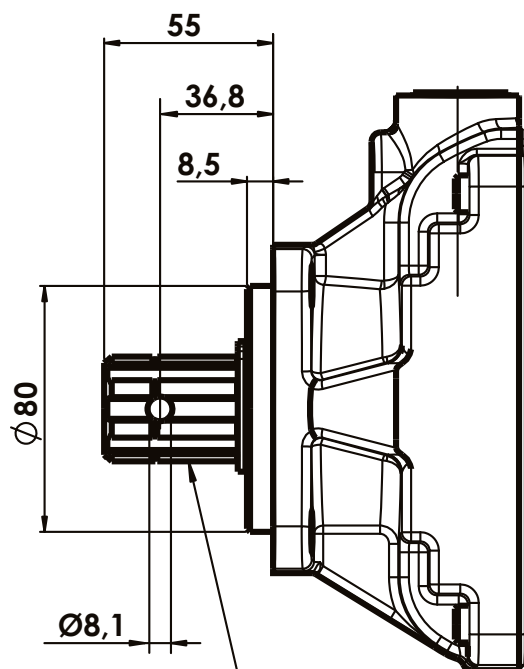
PPV 60



POMPA PPV 60 STANDARD
65011106LS1
STANDARD PPV 60 PUMP

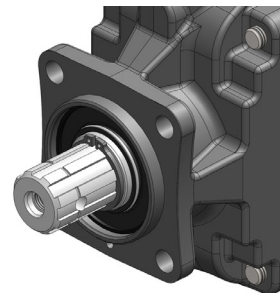
		FFFS1BDDRRX	FFFS5BDDRRX
LS	BLOCCHETTO LS/ LS BLOCK	G 1/4	
D	DRENAGGIO / DRAIN	G 3/4	1 1/16-12 UN-2B
OUT	PRESSIONE / PRESSURE	G 3/4	1 5/16-12 UN-2B
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50 mm	
L	BARICENTRO / CENTER OF MASS	145 mm circa/approx	

6501TBDDRRX

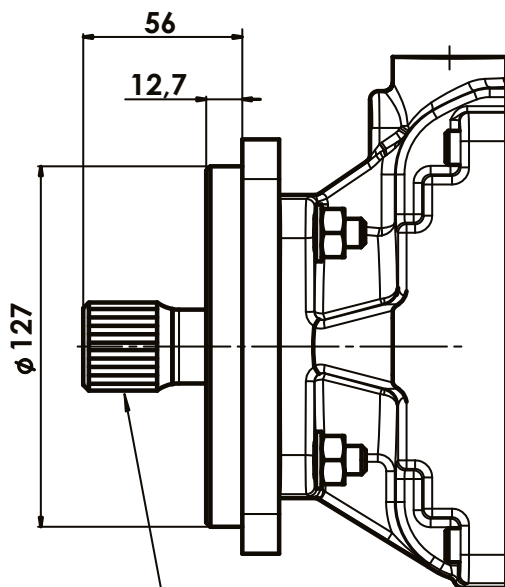


Albero/Shaft
8x32x36
(ISO 14)

COPPIA TRASMISSIBILE
MASSIMA 900Nm
MAX. TORQUE 900Nm

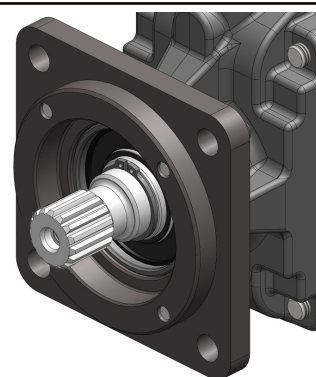


6512TBDDRRX



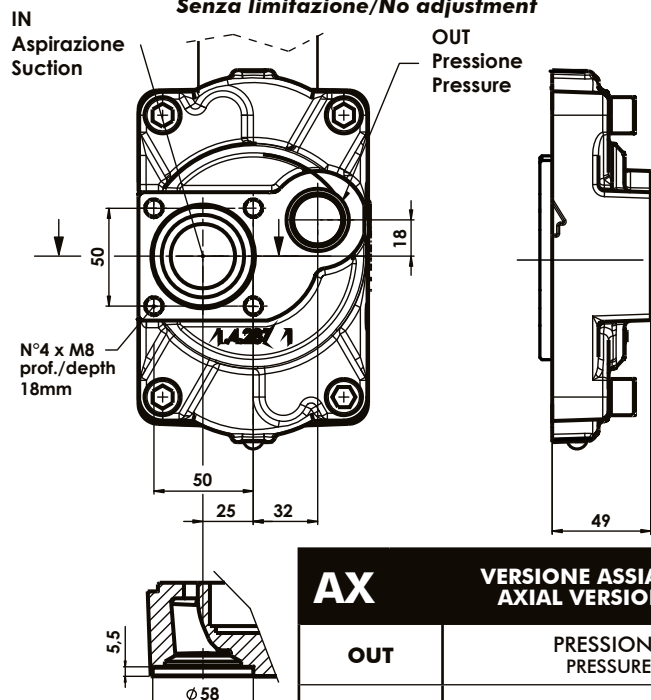
Albero/Shaft
SAE C-14T 12/24DP
(ISO 3019-1 32-4)

COPPIA TRASMISSIBILE
MASSIMA 640Nm
MAX. TORQUE 640Nm

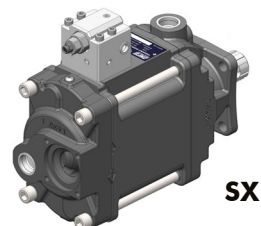
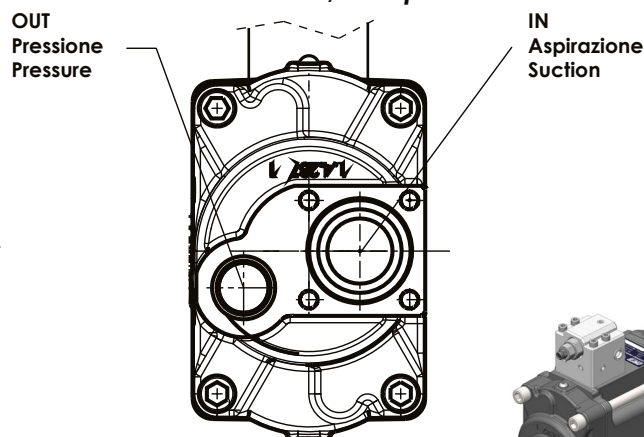


FFFST 1 DDDR 1

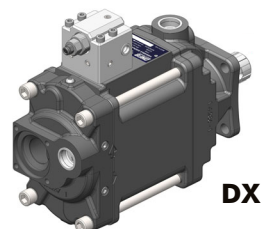
Rotazione destra/Right rotation
Senza limitazione/No adjustment

**FFFST 1 DDDR 6**

Rotazione sinistra/Left rotation
Senza limitazione/No adjustment



SX

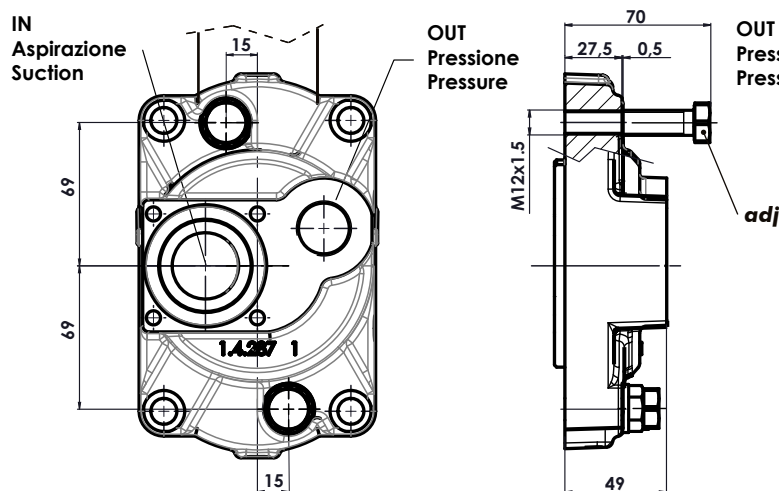


DX

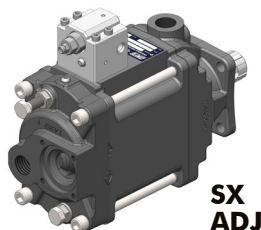
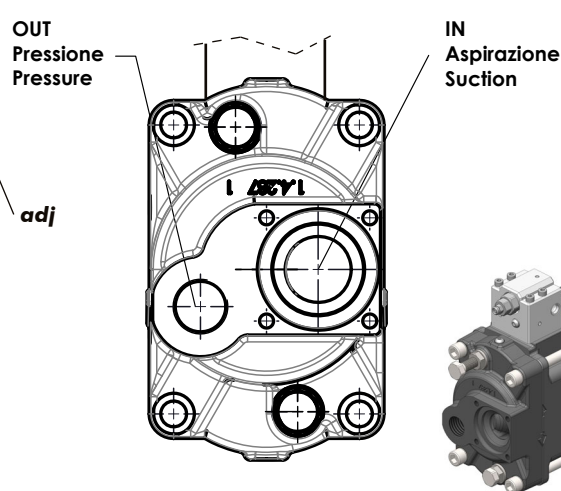
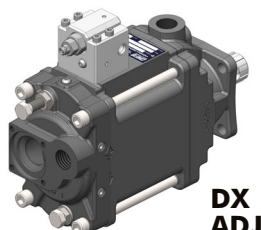
AX	VERSIONE ASSIALE AXIAL VERSION	FFFS1 BDDRRX	FFFS5 BDDRRX
OUT	PRESSIONE PRESSURE	G 3/4	1 5/16-12 UN-2B
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50mm	

FFFST 1 DDDR 2

Rotazione destra/Right rotation
Con limitazione/With adjustment

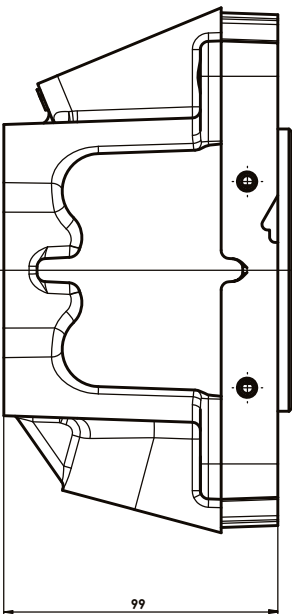
**FFFST 1 DDDR 7**

Rotazione sinistra/Left rotation
Con limitazione/With adjustment

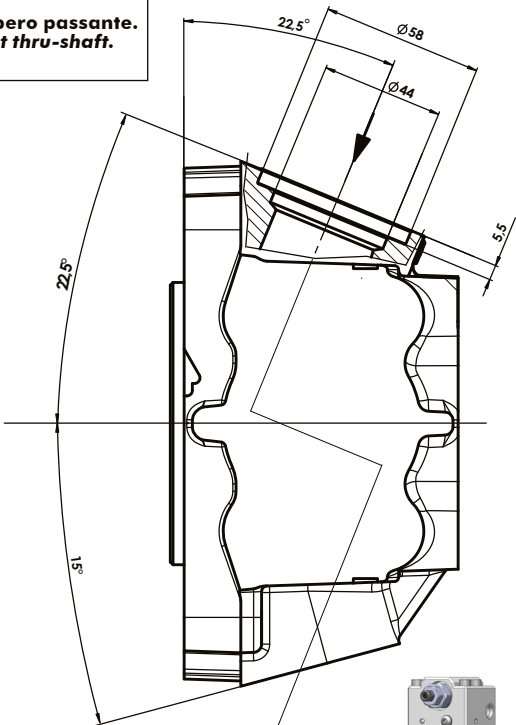
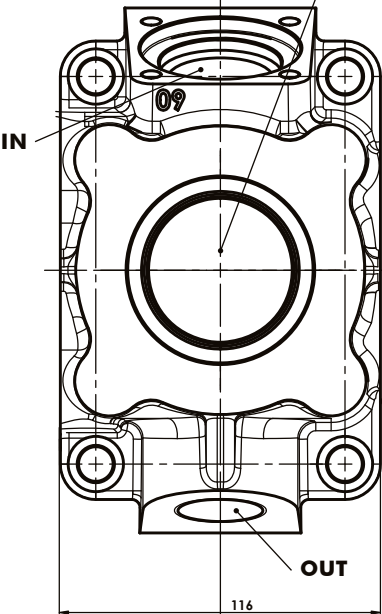
SX
ADJDX
ADJ

AX	VERSIONE ASSIALE AXIAL VERSION	FFFS1 BDDRRX	FFFS5 BDDRRX
OUT	PRESSIONE PRESSURE	G 3/4	1 5/16-12 UN-2B
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50mm	

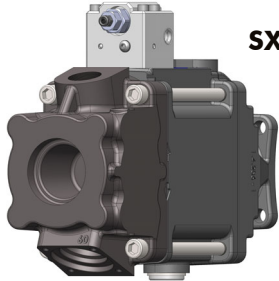
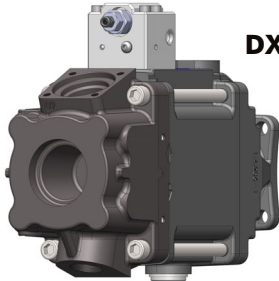
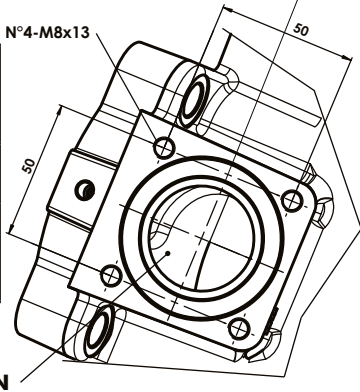
FFFST 2 DDDR 1



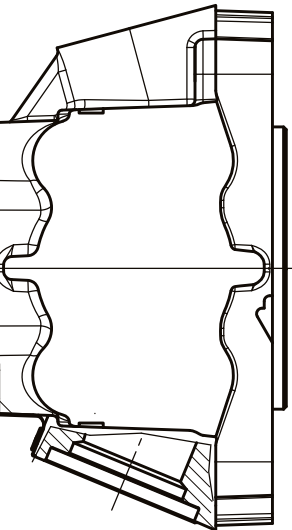
ROTAZIONE DESTRA
RIGHT ROTATION



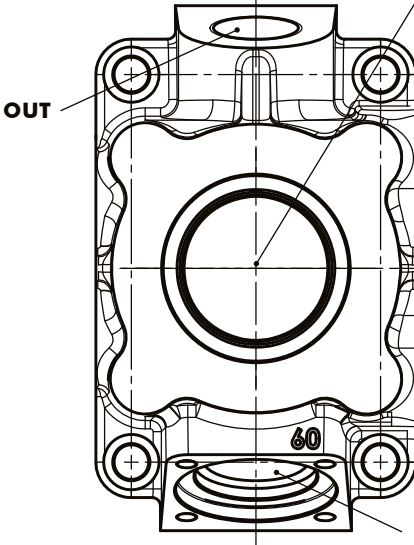
RV VERSIONE RADIALE VERTICALE SENZA ALBERO PASSANTE VERTICAL RADIAL VERSION WITHOUT THRU-SHAFT		FFFS1 BDDRRX	FFFS5 BDDRRX
OUT	PRESSIONE / PRESSURE	G 1	1 5/16-12 UN-2B
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50mm	



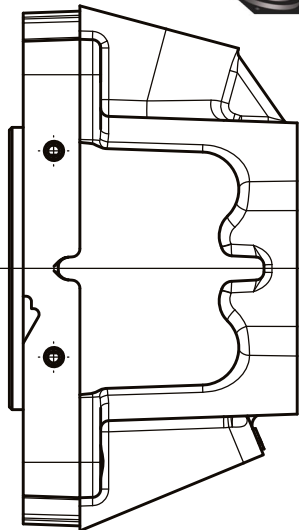
FFFST 2 DDDR 6

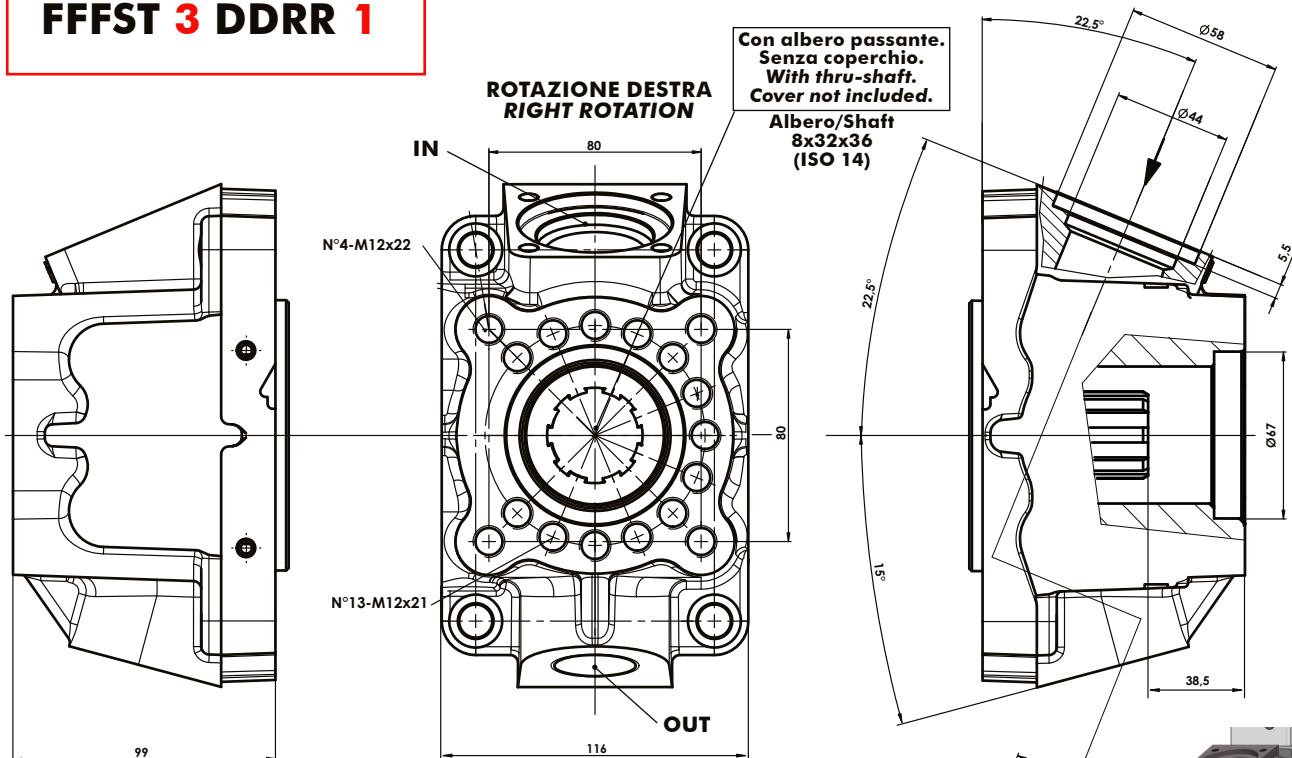


ROTAZIONE SINISTRA
LEFT ROTATION

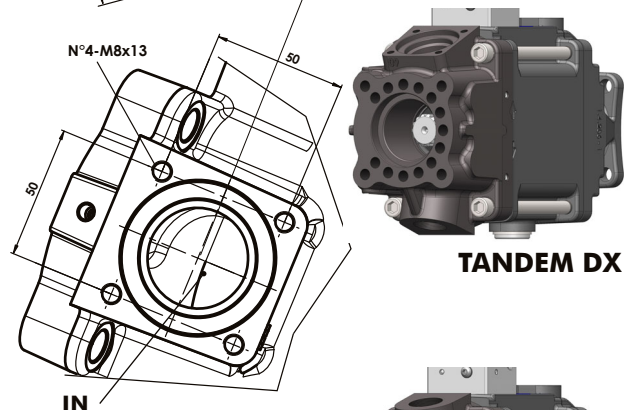
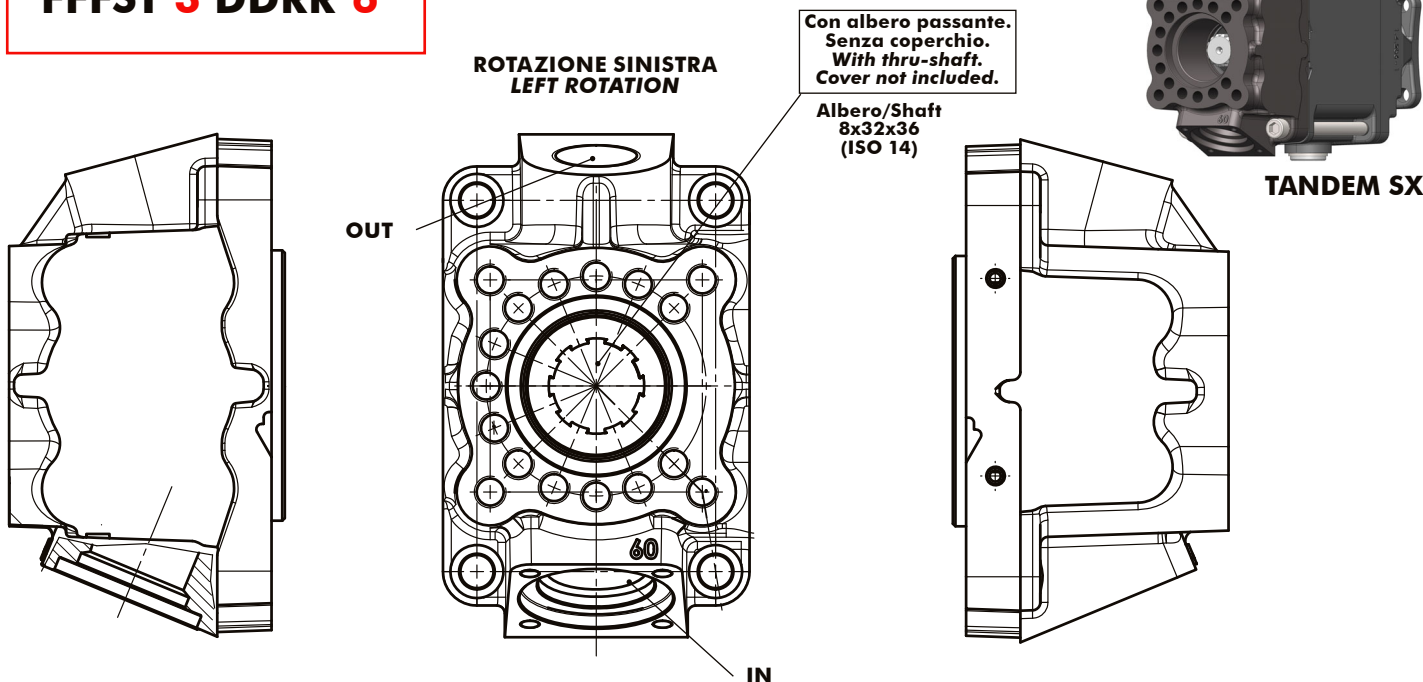


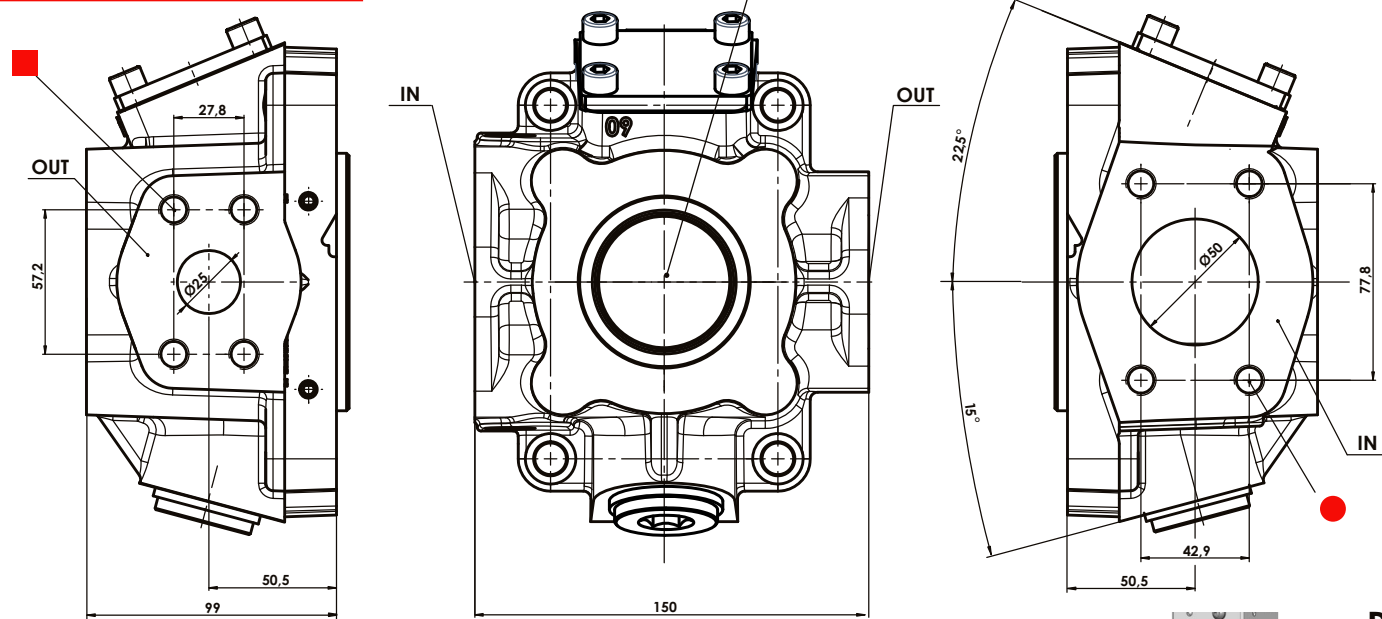
Senza albero passante.
Without thru-shaft.



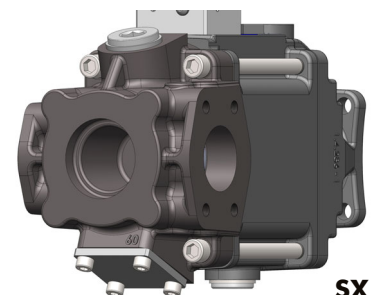
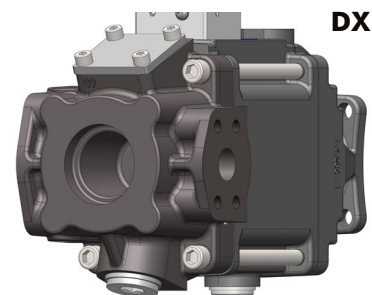
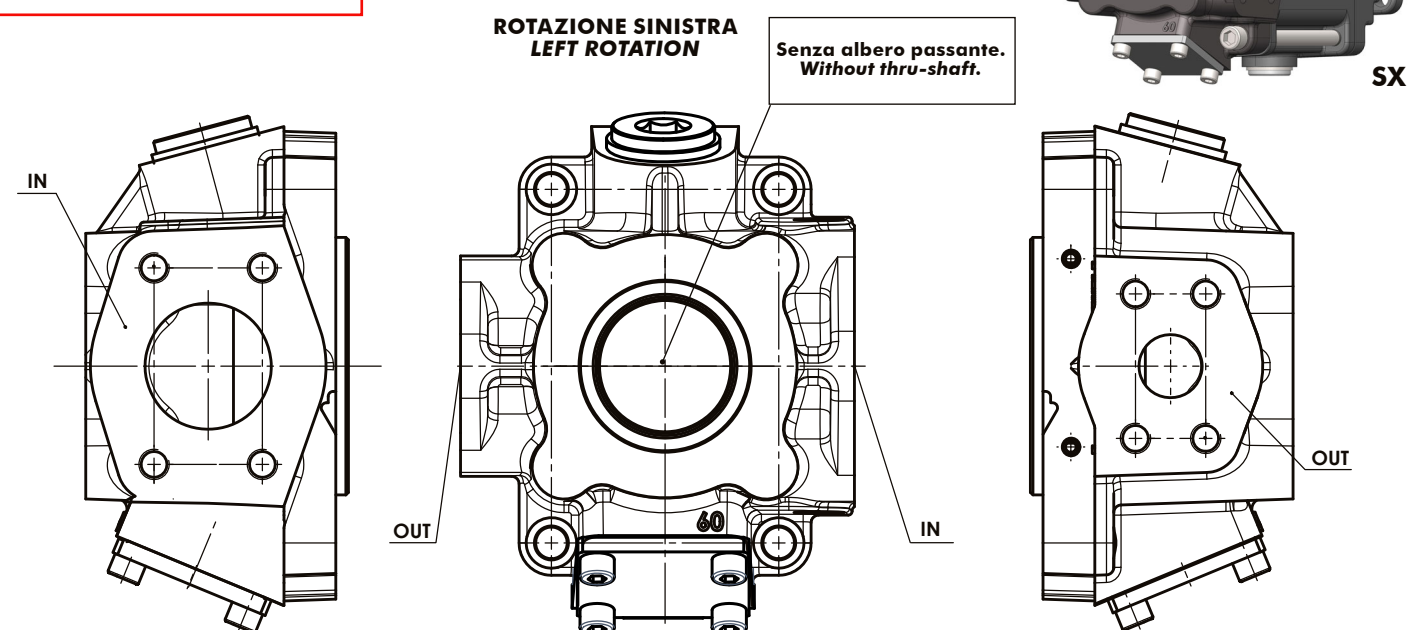
FFFST 3 DDDR 1

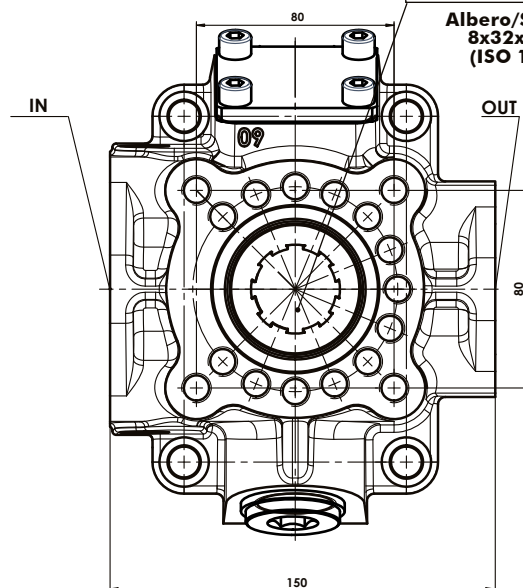
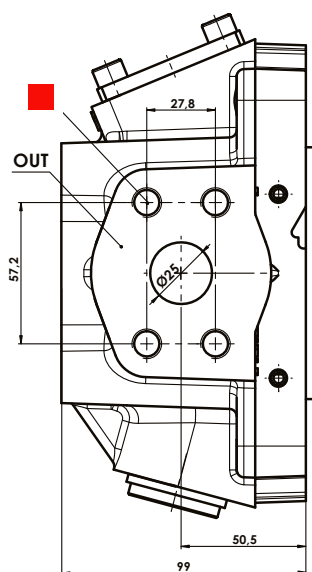
PV		FFFST 1 BDDR X	FFFST 5 BDDR X
VERSIONE RADIALE VERTICALE CON ALBERO PASSANTE VERTICAL RADIAL VERSION WITH THRU-SHAFT			
OUT	PRESSIONE / PRESSURE	G 1	1 5/16-12 UN-2B
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50mm	

**FFFST 3 DDDR 6**

FFFST 4 DDDR 1

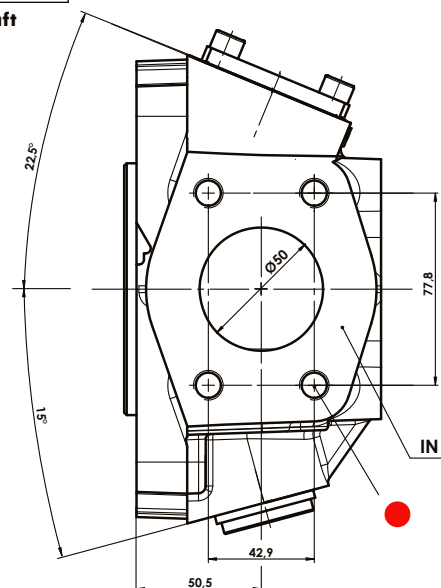
RO VERSIONE RADIALE ORIZZONTALE SAE SENZA ALBERO PASSANTE HORIZONTAL RADIAL SAE VERSION WITHOUT THRU-SHAFT			FFFS1 BDDRRX	FFFS5 BDDRRX
OUT	PRESSIONE PRESSURE	1" SAE 6000	■ M12	■ 7/16"UNC
IN	ASPIRAZIONE SUCTION	2" SAE 3000	● M12	● 1/2"UNC

**FFFST 4 DDDR 6**

FFFST 5 DDDR 1

Con albero passante.
Senza coperchio.
With thru-shaft.
Cover not included.

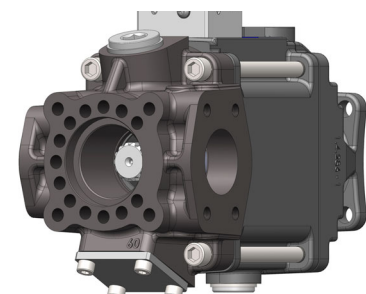
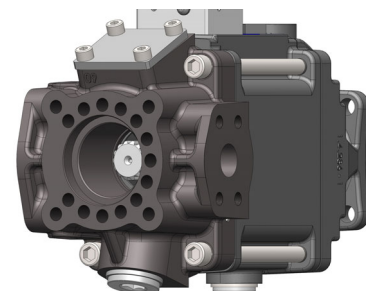
Albero/Shaft
8x32x36
(ISO 14)



**ROTAZIONE DESTRA
RIGHT ROTATION**

TANDEM DX

PO VERSIONE RADIALE ORIZZONTALE SAE CON ALBERO PASSANTE HORIZONTAL RADIAL SAE VERSION WITH THRU-SHAFT			FFFS1 BDDRRX	FFFS5 BDDRRX
OUT	PRESSIONE PRESSURE	1" SAE 6000	■ M12	■ 1/2"UN
IN	ASPIRAZIONE SUCTION	2 1/2" SAE 3000	● M12	● 1/2"UN



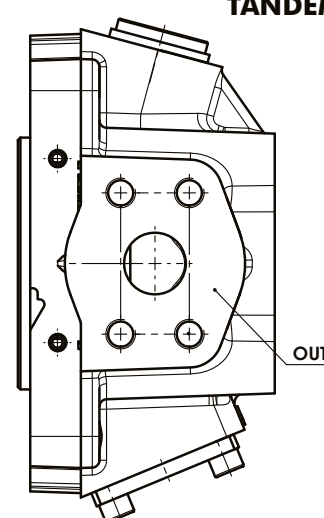
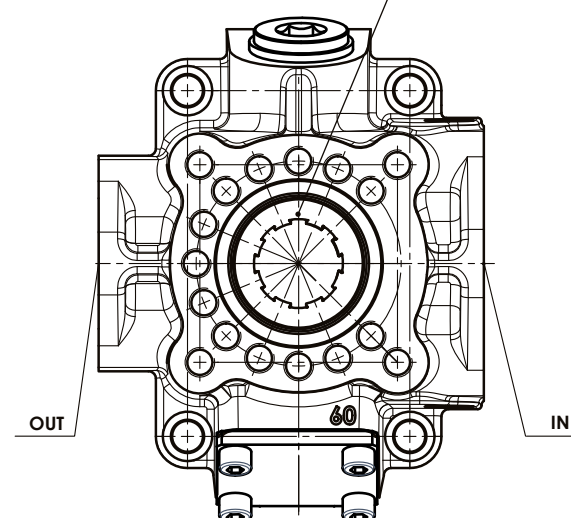
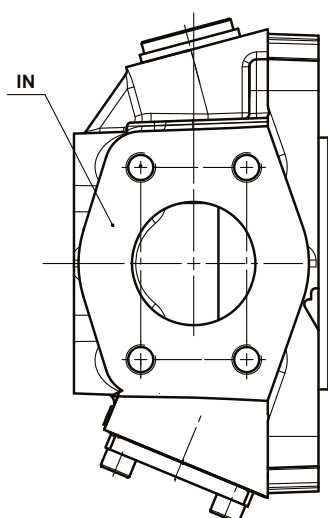
TANDEM SX

FFFST 5 DDDR 6

**ROTAZIONE SINISTRA
LEFT ROTATION**

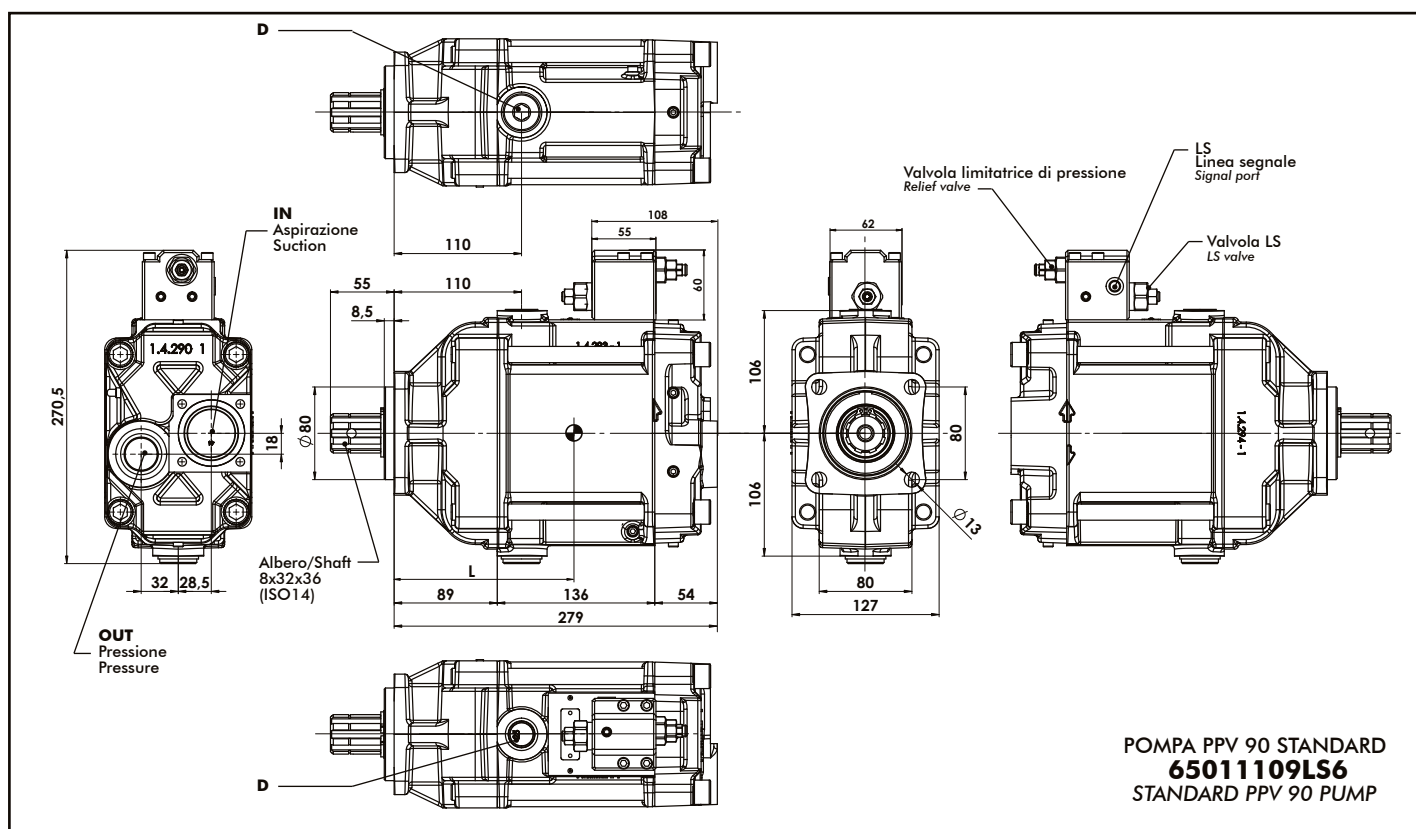
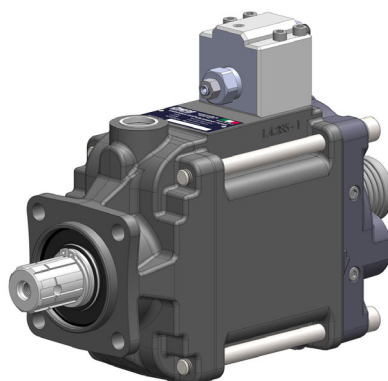
Con albero passante.
Senza coperchio.
With thru-shaft.
Cover not included.

Albero/Shaft
8x32x36
(ISO 14)



POMPE A CILINDRATA VARIABILE VARIABLE DISPLACEMENT PUMPS

PPV 90-110



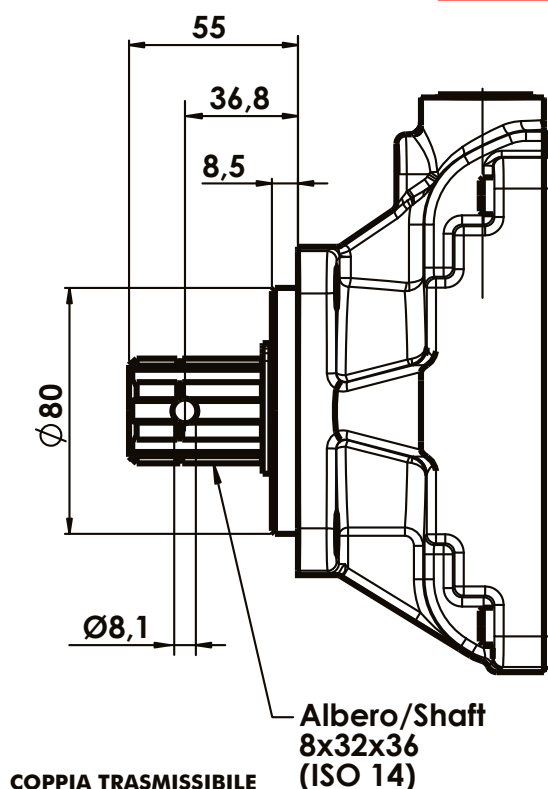
POMPA PPV 90 STANDARD
65011109LS6
STANDARD PPV 90 PUMP

		FFFS1BDDRRX	FFFS5BDDRRX
LS	BLOCCHETTO LS/ LS BLOCK	G 1/4	
D	DRENAGGIO / DRAIN	G 3/4	1 1/16-12 UN-2B
OUT	PRESSIONE / PRESSURE	G 1	1 5/16-12 UN-2B
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50 mm	
L	BARICENTRO / CENTER OF MASS	148 mm circa/approx	

26/03/2024

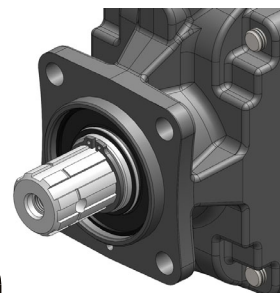
99765011110 Rev: AS

6501TBDDRRX

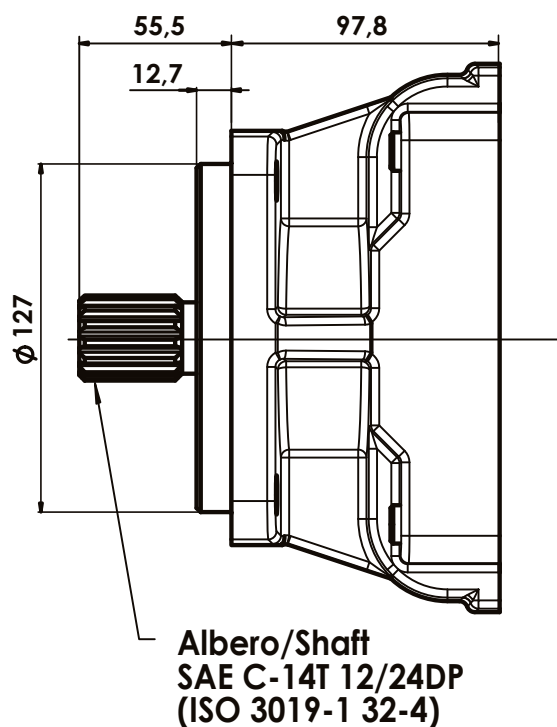


Albero/Shaft
8x32x36
(ISO 14)

COPPIA TRASMISSIBILE
MASSIMA 900Nm
MAX. TORQUE 900Nm

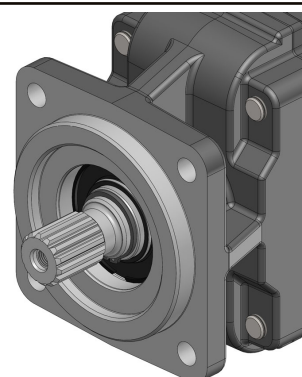


6512TBDDRRX



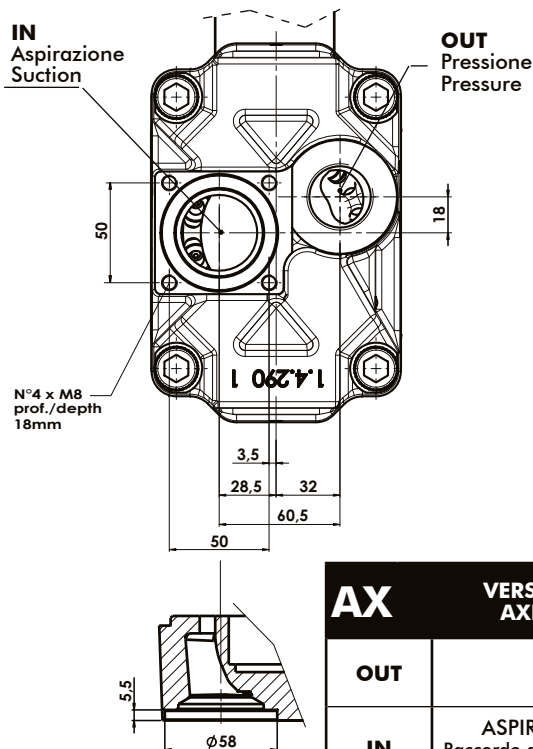
Albero/Shaft
SAE C-14T 12/24DP
(ISO 3019-1 32-4)

COPPIA TRASMISSIBILE
MASSIMA 640Nm
MAX. TORQUE 640Nm

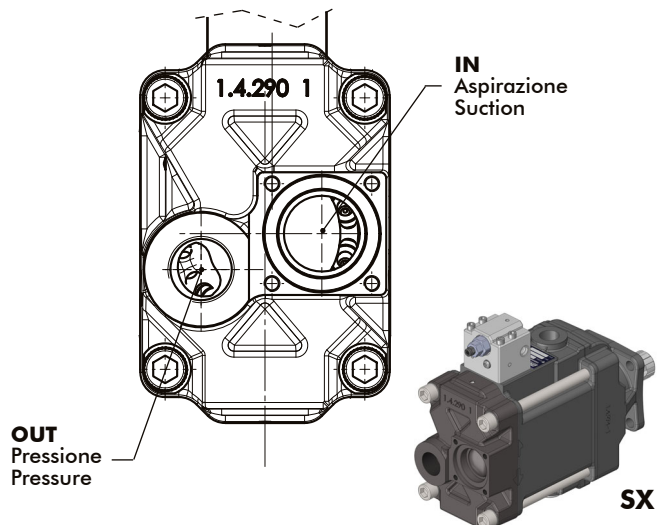


FFFST 1 DDDR 1

Rotazione destra/Right rotation
Senza limitazione/No adjustment

**FFFST 1 DDDR 6**

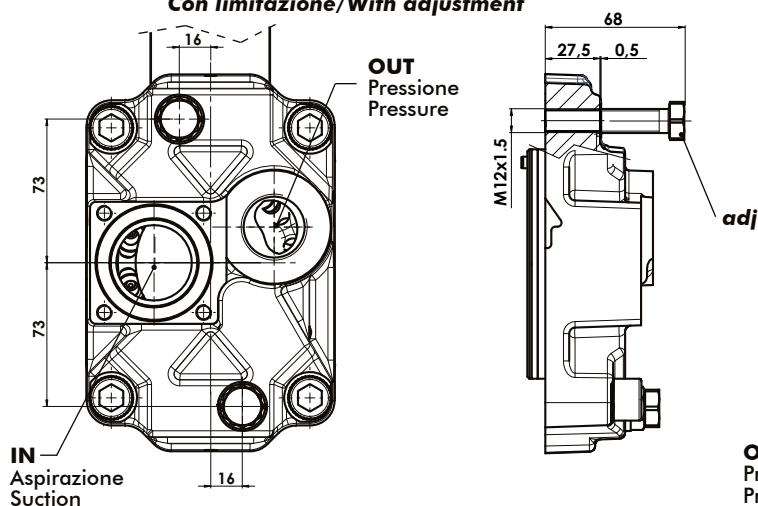
Rotazione sinistra/Left rotation
Senza limitazione/No adjustment



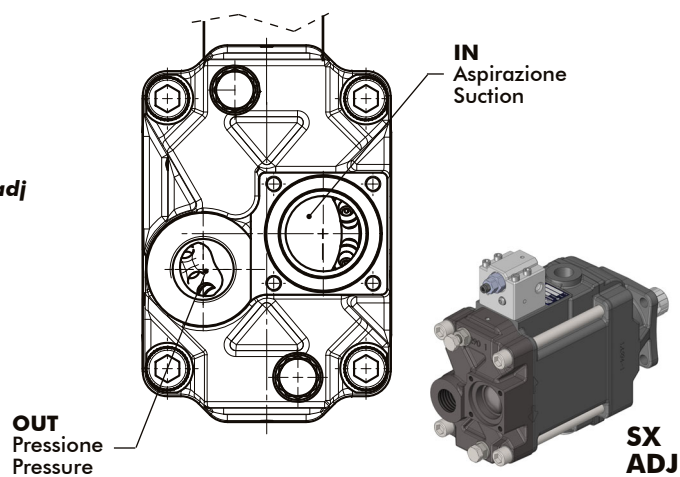
AX	VERSIONE ASSIALE AXIAL VERSION	FFFS1 BDDRRX	FFFS5 BDDRRX
OUT	PRESSIONE PRESSURE	G 1	1 5/16-12 UN-2B
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50mm	

FFFST 1 DDDR 2

Rotazione destra/Right rotation
Con limitazione/With adjustment

**FFFST 1 DDDR 7**

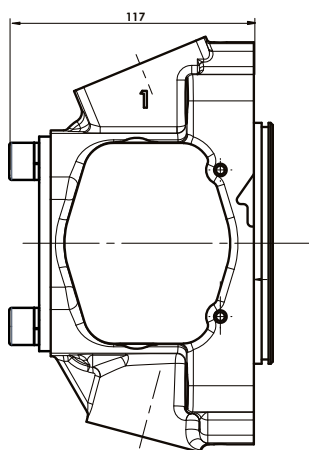
Rotazione sinistra/Left rotation
Con limitazione/With adjustment



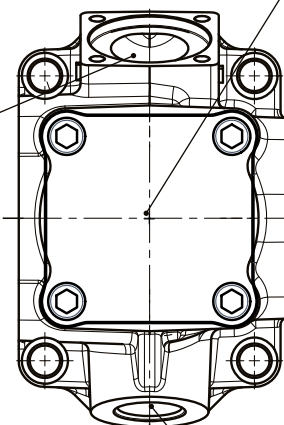
AX	VERSIONE ASSIALE AXIAL VERSION	FFFS1 BDDRRX	FFFS5 BDDRRX
OUT	PRESSIONE PRESSURE	G 1	1 5/16-12 UN-2B
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50mm	

FFFST 2 DDDR 1**ROTAZIONE DESTRA
RIGHT ROTATION**

Senza albero passante.
Con coperchio incluso.
Without thru-shaft.
With cover included.

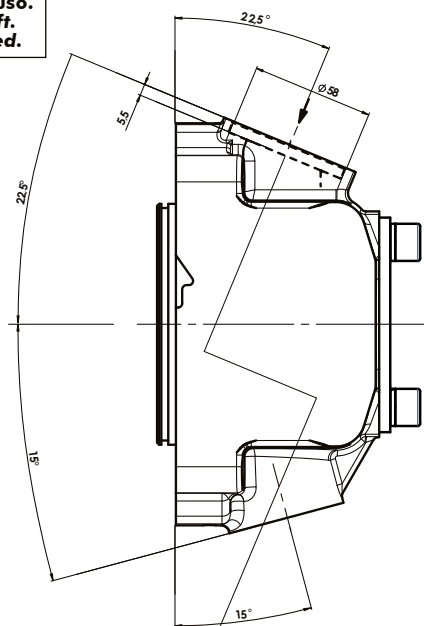
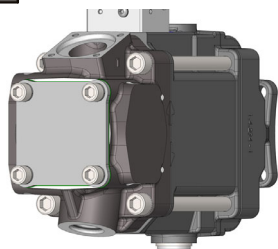


IN



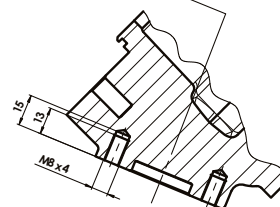
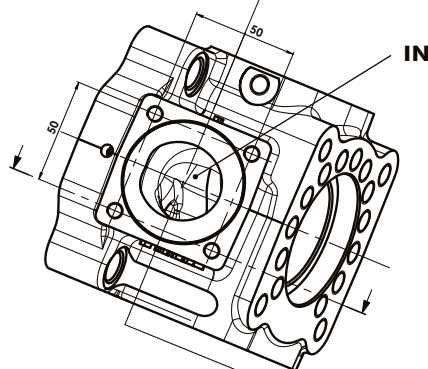
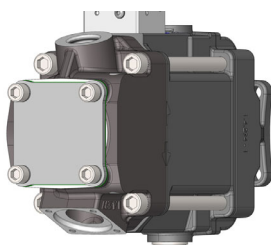
OUT

DX

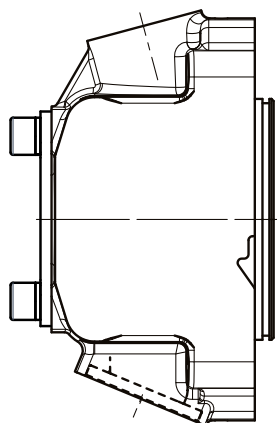


RV	VERSIONE RADIALE VERTICALE SENZA ALBERO PASSANTE VERTICAL RADIAL VERSION WITHOUT THRU-SHAFT	FFFS1 BDDRRX	FFFS5 BDDRRX
	OUT PRESSIONE / PRESSURE	G 1	1 5/16-12 UN-2B
	IN ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50mm	

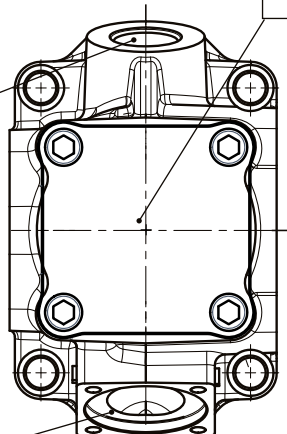
SX

**FFFST 2 DDDR 6****ROTAZIONE SINISTRA
LEFT ROTATION**

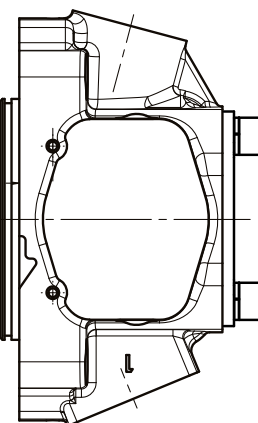
Senza albero passante.
Con coperchio incluso.
Without thru-shaft.
With cover included.

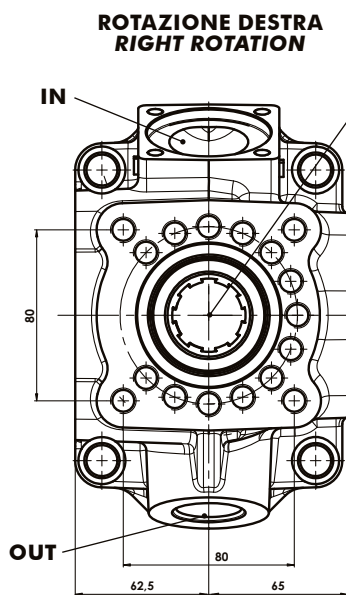
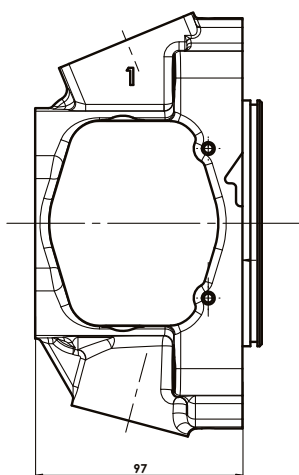


OUT



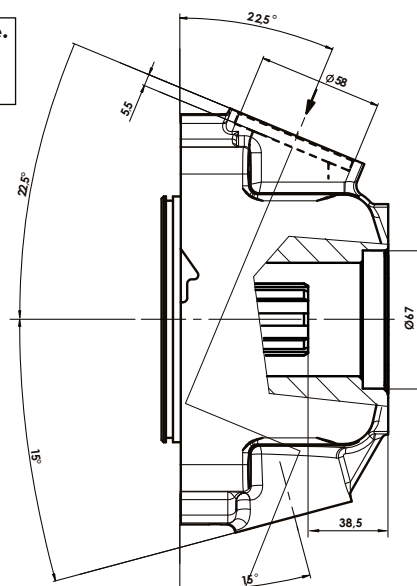
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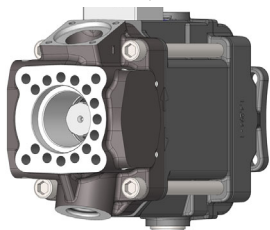
FFFST 3 DDDR 1

Con albero passante.
Senza coperchio.
With thru-shaft.
Cover not included.

Albero/Shaft
8x32x36
(ISO 14)

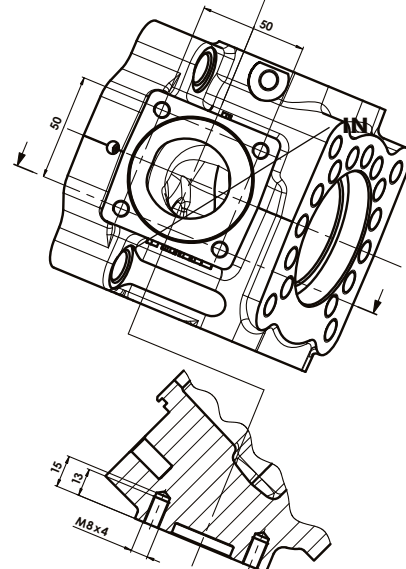
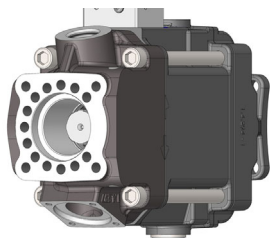
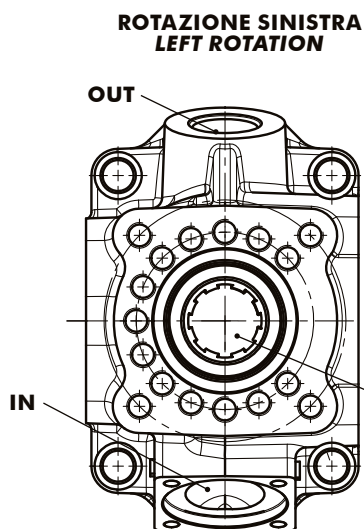
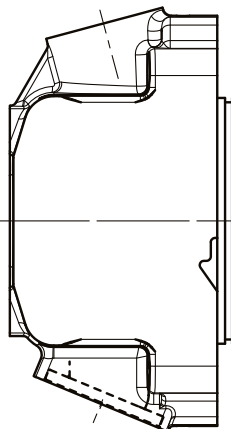


**TANDEM
DX**



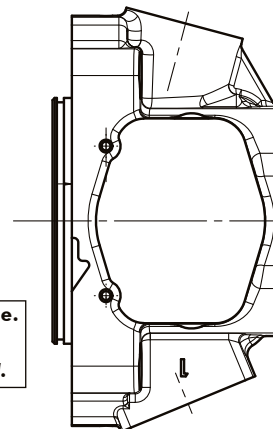
PV	VERSIONE RADIALE VERTICALE CON ALBERO PASSANTE VERTICAL RADIAL VERSION WITH THRU-SHAFT	FFFS1 BDDRRX	FFFS5 BDDRRX
	OUT	PRESSIONE / PRESSURE	G 1
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50mm	
		1 5/16-12 UN-2B	

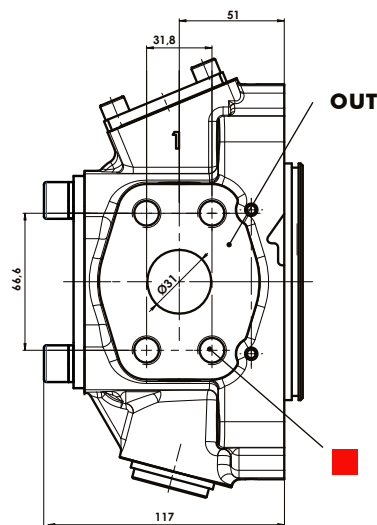
**TANDEM
SX**

**FFFST 3 DDDR 6**

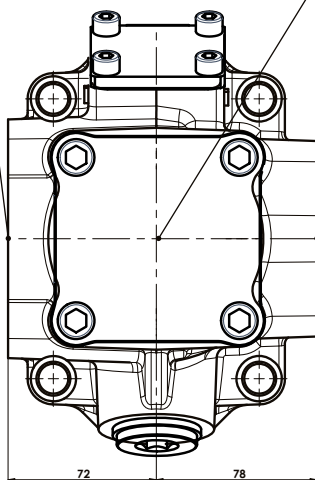
Con albero passante.
Senza coperchio.
With thru-shaft.
Cover not included.

Albero/Shaft
8x32x36
(ISO 14)

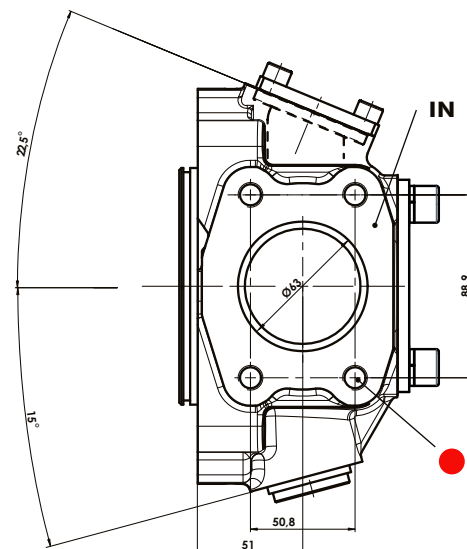


FFFST 4 DDDR 1

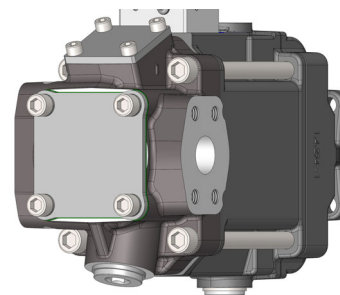
**ROTAZIONE DESTRA
RIGHT ROTATION**



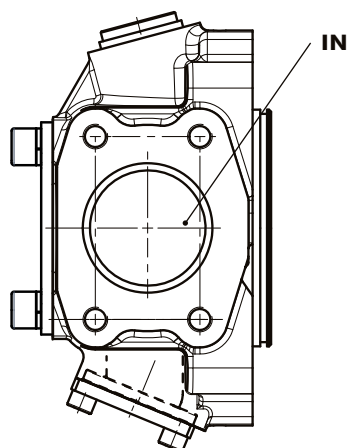
Senza albero passante.
Con coperchio incluso.
Without thru-shaft.
With cover included.



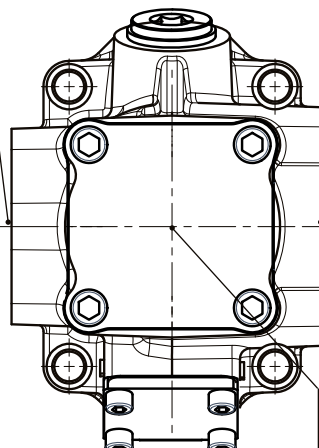
RO VERSIONE RADIALE ORIZZONTALE SAE SENZA ALBERO PASSANTE HORIZONTAL RADIAL SAE VERSION WITHOUT THRU-SHAFT			FFFS1BDDRRX	FFFS5BDDRRX
OUT	PRESSIONE PRESSURE	1 1/4" SAE 6000	■ M14	■ 1/2"UN
IN	ASPIRAZIONE SUCTION	2 1/2" SAE 3000	● M12	● 1/2"UN

DX**FFFST 4 DDDR 6**

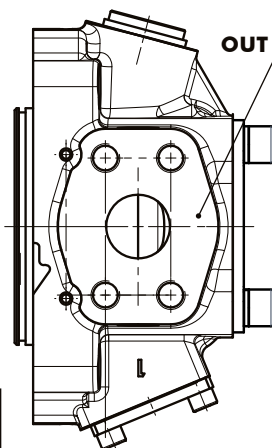
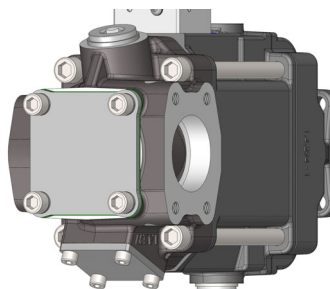
**ROTAZIONE SINISTRA
LEFT ROTATION**

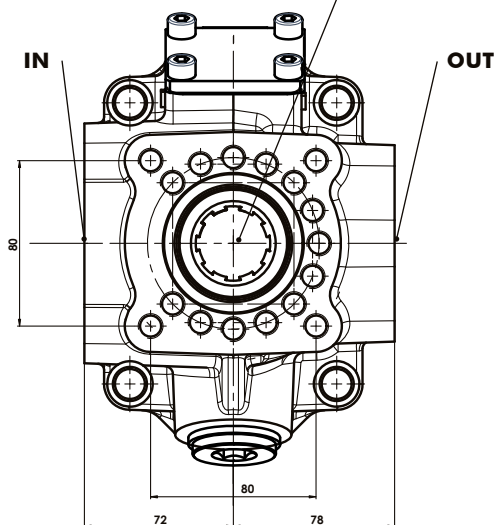
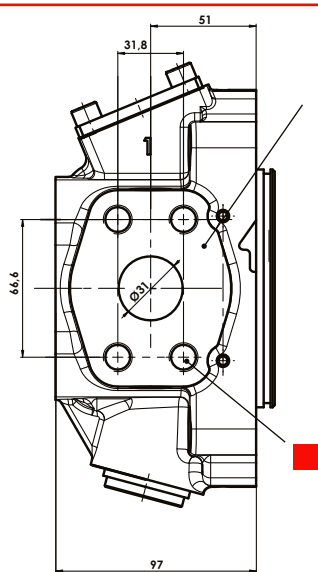


OUT



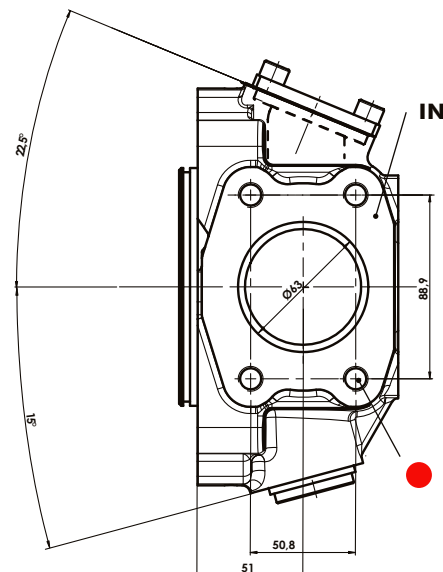
Senza albero passante.
Con coperchio incluso.
Without thru-shaft.
With cover included.

SX

FFFST 5 DDDR 1

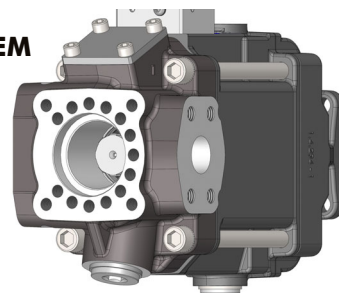
Con albero passante.
Senza coperchio.
With thru-shaft.
Cover not included.

Albero/Shaft
8x32x36
(ISO 14)



**ROTAZIONE DESTRA
RIGHT ROTATION**

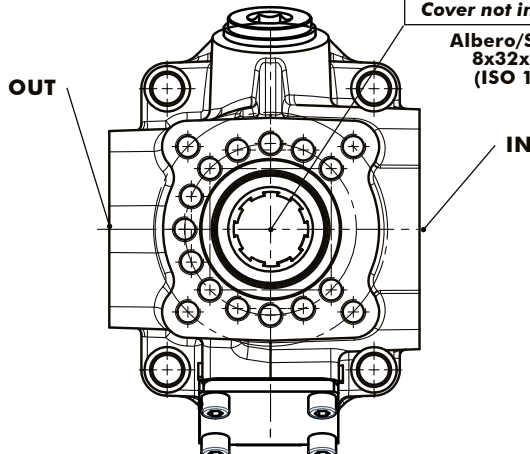
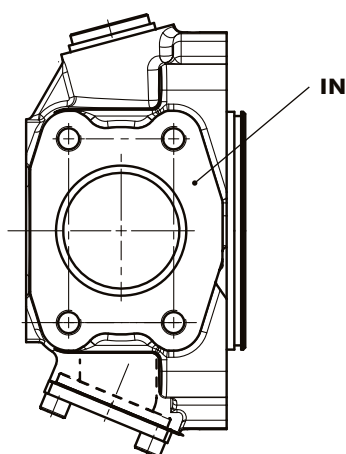
**TANDEM
DX**



PO VERSIONE RADIALE ORIZZONTALE SAE CON ALBERO PASSANTE HORIZONTAL RADIAL SAE VERSION WITH THRU-SHAFT			FFFS 1 BDDRRX	FFFS 5 BDDRRX
OUT	PRESSIONE PRESSURE	1 1/4" SAE 6000	■ M14	■ 1/2"UNC
IN	ASPIRAZIONE SUCTION	2 1/2" SAE 3000	● M12	● 1/2"UNC

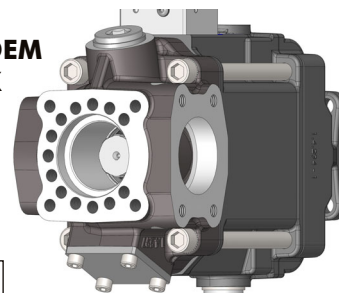
FFFST 5 DDDR 6

**ROTAZIONE SINISTRA
LEFT ROTATION**

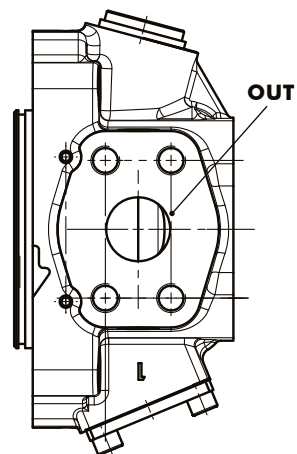


Con albero passante.
Senza coperchio.
With thru-shaft.
Cover not included.

Albero/Shaft
8x32x36
(ISO 14)

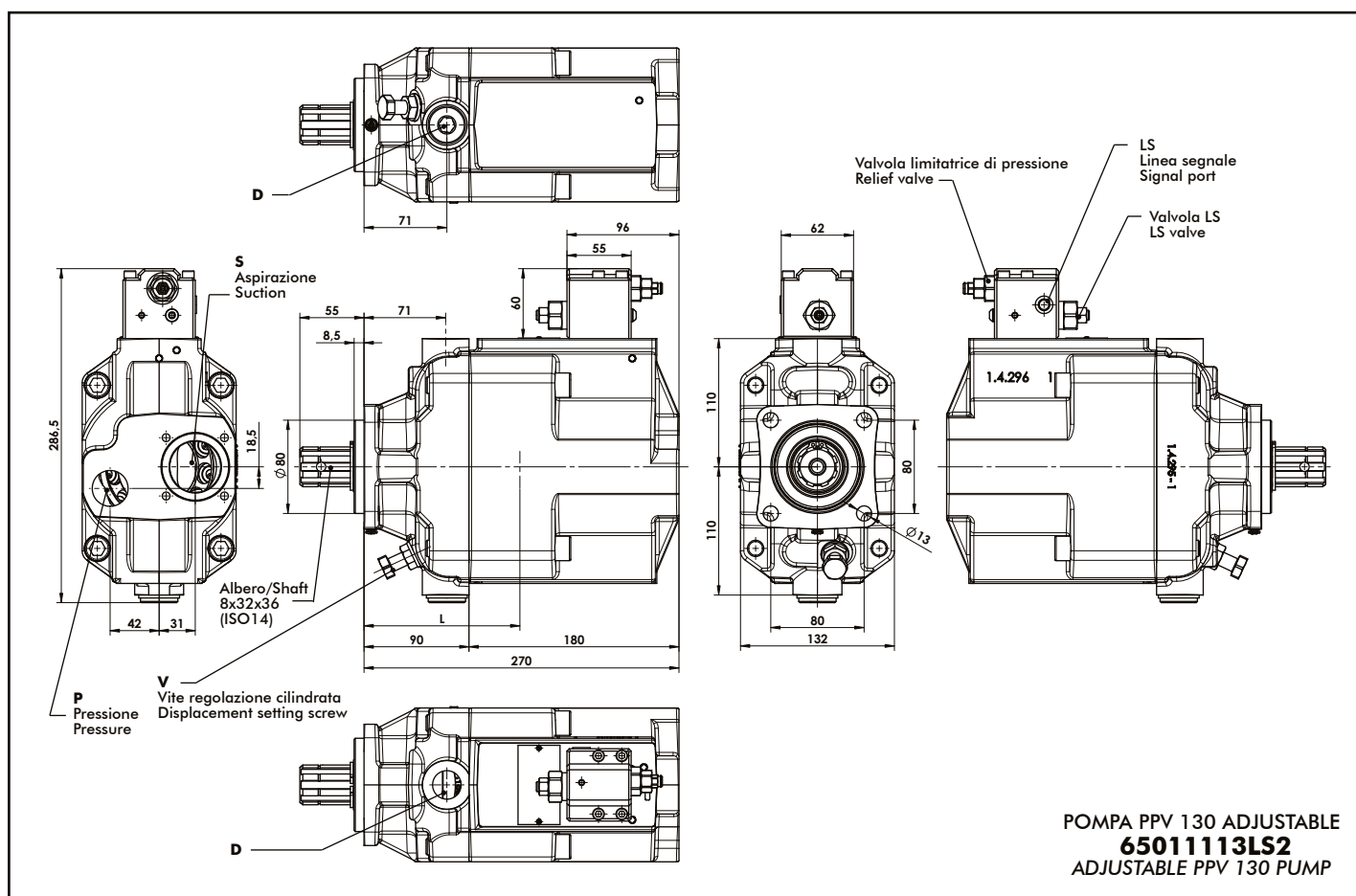
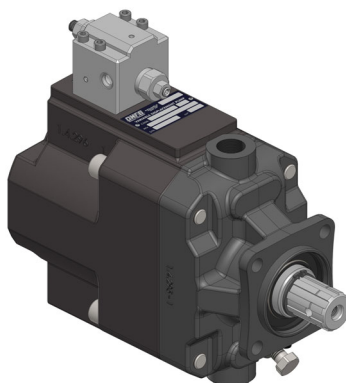


**TANDEM
SX**



POMPE A CILINDRATA VARIABILE VARIABLE DISPLACEMENT PUMPS

PPV 130
ADJUSTABLE



POMPA PPV 130 ADJUSTABLE
65011113LS2
ADJUSTABLE PPV 130 PUMP

FFFS1BDDRRX

LS	BLOCCHETTO LS/ LS BLOCK	G 1/4
D	DRENAGGIO / DRAIN	G 3/4
OUT	PRESSIONE / PRESSURE	G 1
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50 mm
L	BARICENTRO / CENTER OF MASS	145 mm circa/approx

Regolatore PI / PI Control
vedi pagina/see page 30

pag.25



HYDRAULIC COMPONENTS

O.M.F.B. S.p.a. Hydraulic Components

We reserve the right to make any changes without notice.

Edition 2016.08 No reproduction, however partial, is permitted.

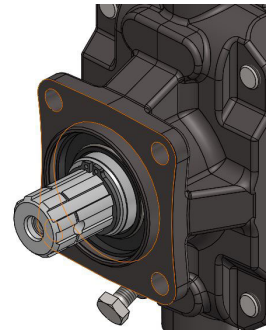
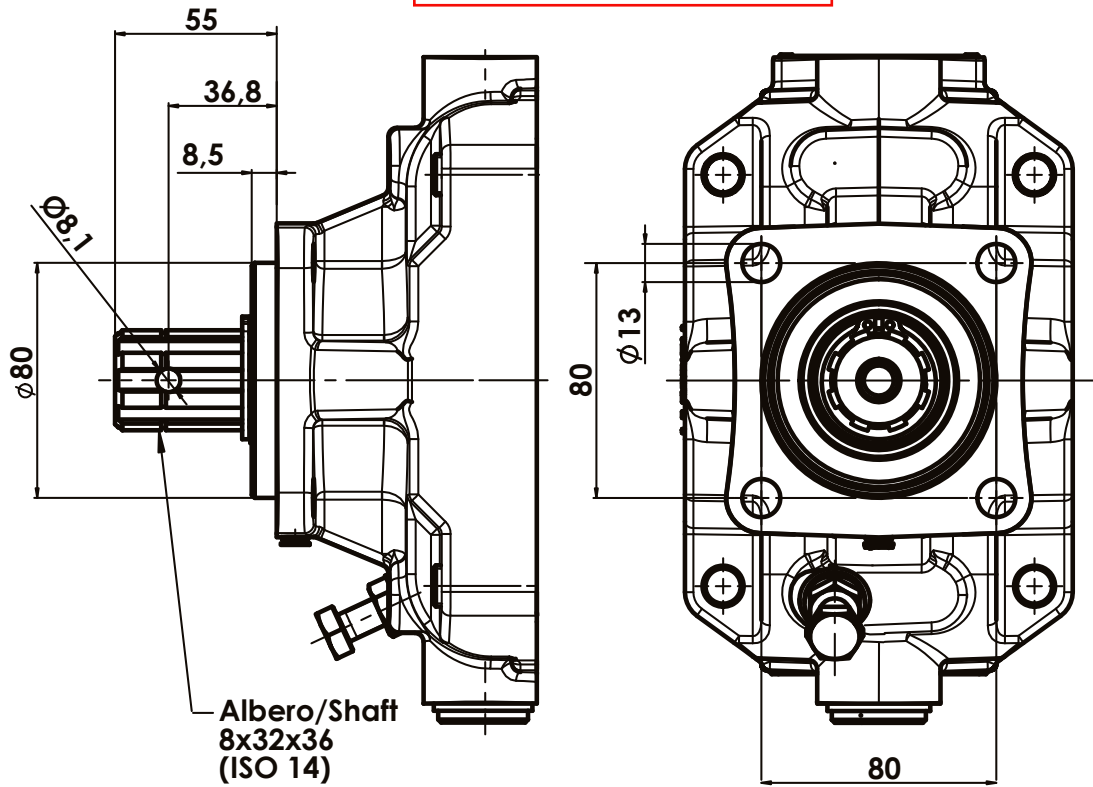
Via Cave, 7/9 25050 Provaglio d'Iseo (Brescia) Italy Tel.: +39.030.9830611
Fax: +39.030.9839207-208 Internet:www.omfb.it e-mail:contatti@omfb.it

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001:2015 =

26/03/2024

99765011110 Rev: AS

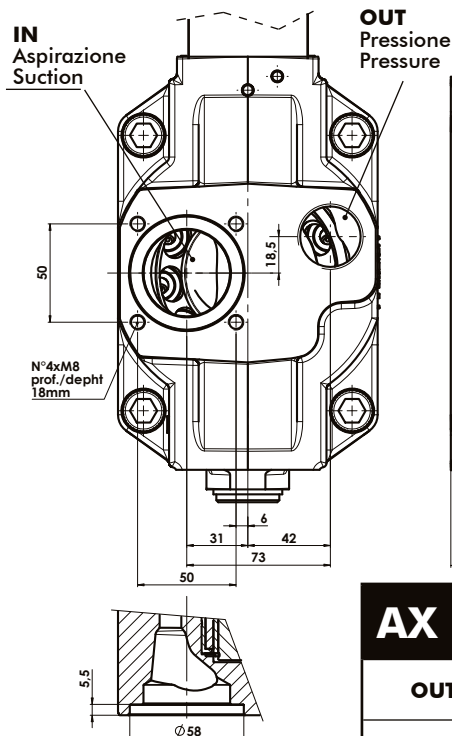
6501TBDDRRX



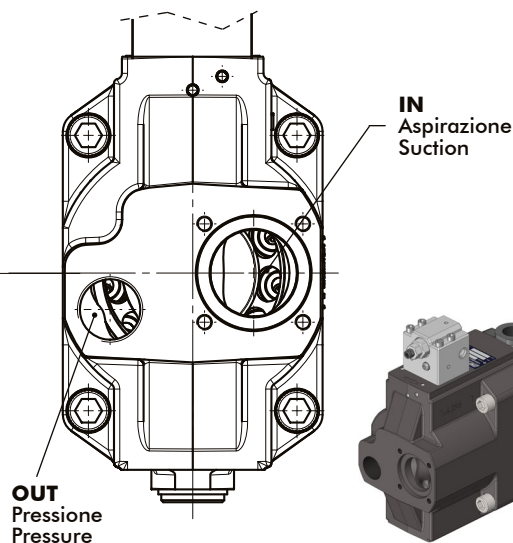
COPPIA TRASMISSIBILE
MASSIMA 900Nm
MAX. TORQUE 900Nm

FFFST 1 DDDR 2

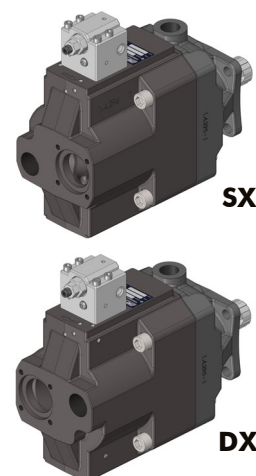
Rotazione destra/Right rotation
Senza limitazione/No adjustment

**FFFST 1 DDDR 7**

Rotazione sinistra/Left rotation
Senza limitazione/No adjustment



AX	VERSIONE ASSIALE AXIAL VERSION	FFFS1 BDDRRX
OUT	PRESSIONE PRESSURE	G 1
IN	ASPIRAZIONE / SUCTION Raccordo da ordinare separatamente Suction fitting to be ordered separately	Ø50mm



REGOLATORI CONTROLS

FFFSTBDDL**LSX**

REGOLATORE LOAD SENSING LS

Regolare la pressione differenziale Δp = pressione impianto meno pressione segnale.

L'intervallo di regolazione è 15-50 bar.

Settaggio preimpostato 25 bar $\pm 2\%$.

Regolazione 15 bar/rev.

Regolare la pressione max. dell'impianto fra 20 e 350 bar.

Il valore preimpostato della valvola limitatrice di pressione è di 330 bar.

Regolazione 150 bar/rev.

La capacità della linea di segnale LS deve adattarsi al relativo impianto idraulico. La linea di segnale deve essere preferibilmente costituita da un tubo flessibile di diametro idoneo a garantire lo smorzamento di eventuali fluttuazioni del segnale LS.

LS LOADING SENSING CONTROL

Regulate the differential pressure Δp = circuit pressure less signal pressure.

The adjustment range is 15-50 bar.

Default setting 25 bar $\pm 2\%$.

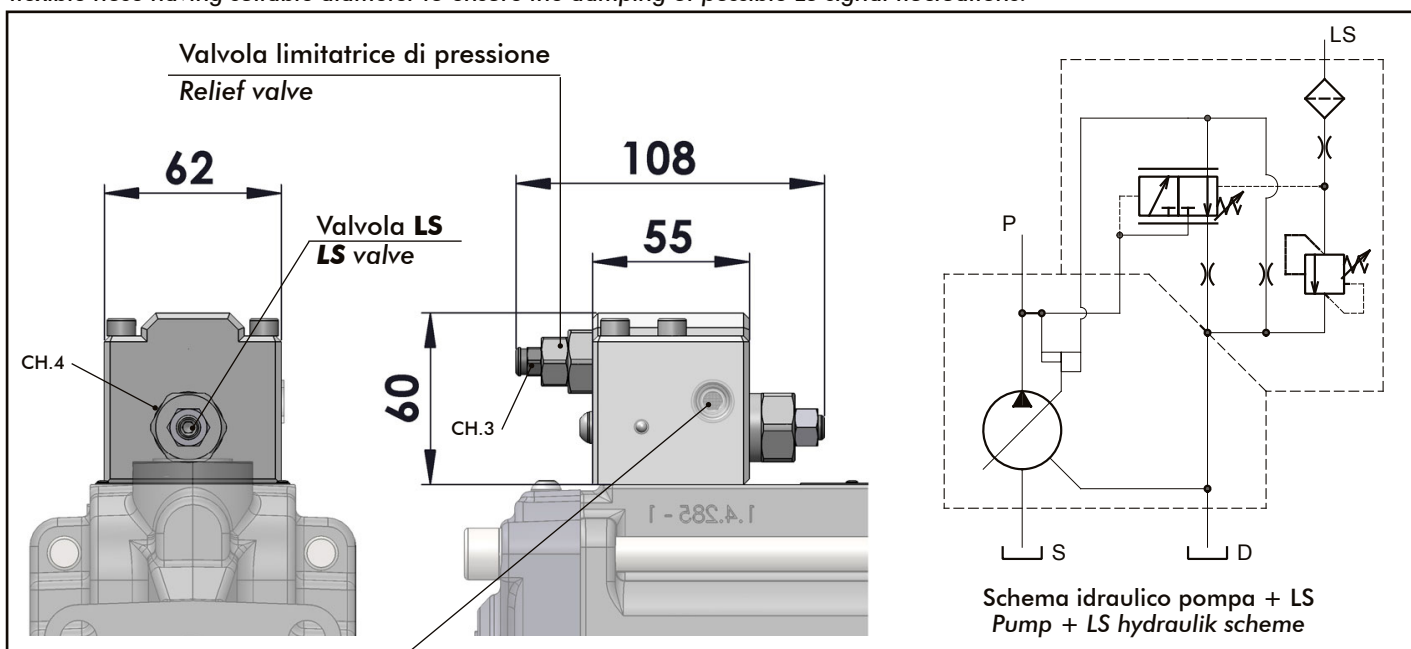
Setting 15 bar/rev.

Adjust the maximum pressure of hydraulic circuit between 20 and 350 bar.

The default setting of the pressure relief valve is 330 bar.

Setting 150 bar/rev.

The capacity of the LS line has to be adapted to the related hydraulic circuit. The signal line should preferably consist of a flexible hose having suitable diameter to ensure the damping of possible LS signal fluctuations.



LS
Linea segnale
Signal port

FFFS1BDDLLSX****
Filettatura/Thread G1/4

FFFS5BDDLLSX****
Filettatura/Thread G1/4

7/16-20-04JIC

+

codice/code
11600910049

+

codice/code
11501104045

26/03/2024

99765011110 Rev: AS

FFFSTBDDPIX

REGOLATORE PI

Regolare la pressione minima = pressione impianto meno pressione segnale.

L'intervallo di regolazione è 15-50 bar.

Settaggio preimpostato 25 bar $\pm 2\%$.

Regolazione 15 bar/rev.

Regolare la pressione max. dell'impianto fra 20 e 350 bar.

Il valore preimpostato della valvola limitatrice di pressione è di 330 bar.

Regolazione 150 bar/rev.

Regolatore di pressione con pressione impostabile sulla valvola.

Questo regolatore mantiene una pressione costante nel circuito idraulico al variare della portata.

Il controllo modula la portata della pompa in modo idoneo a mantenere la pressione del sistema al valore impostato sulla valvola di massima. È quindi concepito per sistemi a pressione costante nei quali occorrono diverse portate o come limitazione della pressione a bassa perdita di un sistema idraulico.

PI CONTROL

Regulate the minimum pressure = circuit pressure less signal pressure.

The adjustment range is 15-50 bar.

Default setting 25 bar $\pm 2\%$.

Setting 15 bar/rev.

Adjust the maximum pressure of hydraulic circuit between 20 and 350 bar.

The default setting of the pressure relief valve is 330 bar.

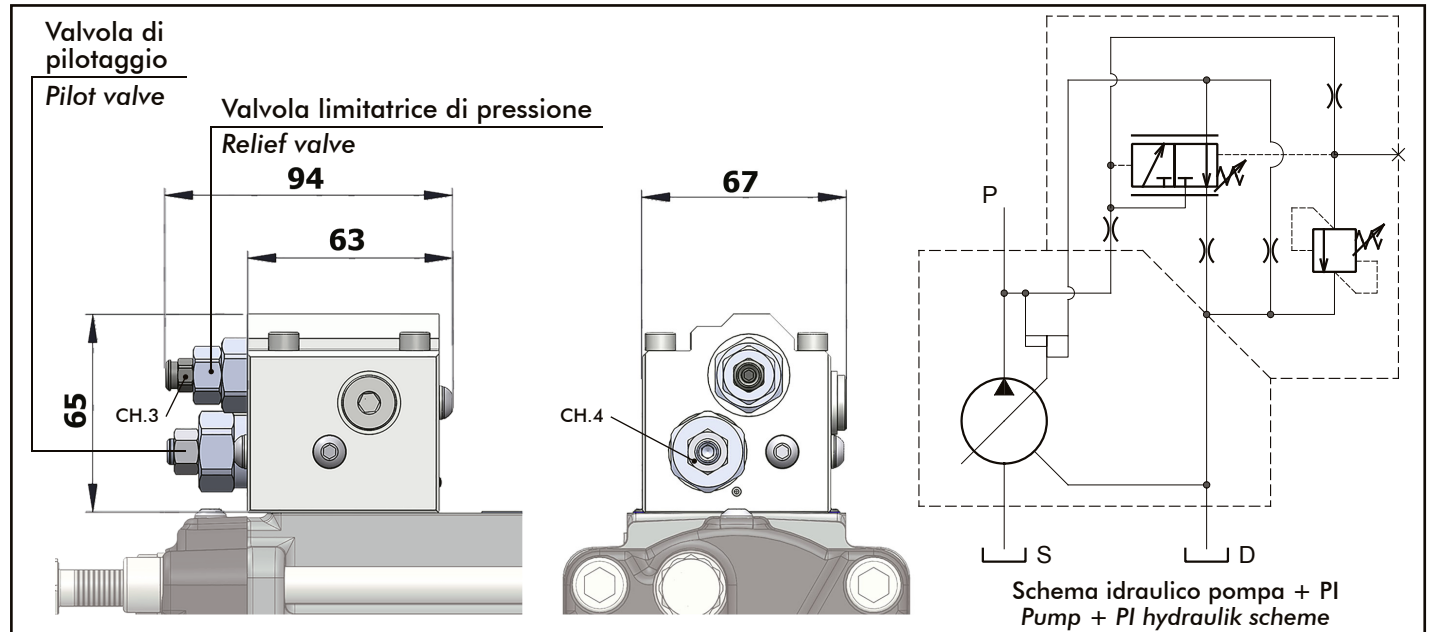
Setting 150 bar/rev.

Adjustable Pressure control.

This control ensures a constant pressure in the hydraulic circuit by changing the flow.

The control adjusts the flow in such a way to keep constantly the pressure value set at the relief valve.

It is therefore designed for applications with constant pressure where different flow rates are required or as a limitation of low pressure drop within a hydraulic system.



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REGOLATORE PE

Regolare la pressione minima = pressione impianto meno pressione segnale.

L'intervallo di regolazione è 15-50 bar.

Settaggio preimpostato 25 bar $\pm$ 2%.

Regolazione 15 bar/rev.

Regolare la pressione max. dell'impianto fra 20 e 350 bar.

Il valore preimpostato della valvola limitatrice di pressione è di 330 bar.

Regolazione 150 bar/rev.

Regolatore di pressione con pressione massima e minima impostabili sulle valvole ed intermedia impostabile elettricamente.

Questo regolatore mantiene una pressione costante nel circuito idraulico al variare della portata. Il controllo modula la portata della pompa in modo idoneo a mantenere la pressione del sistema al valore impostato sulla valvola di massima. È quindi concepito per sistemi a pressione costante nei quali occorrono diverse portate: le pressioni massima e minima sono impostabili in modo meccanico, la pressione nel mezzo è regolabile elettricamente. La curva del regolatore ha caratteristica crescente.

PE CONTROL

Regulate the minimum pressure = circuit pressure less signal pressure.

The adjustment range is 15-50 bar.

Default setting 25 bar $\pm$ 2%.

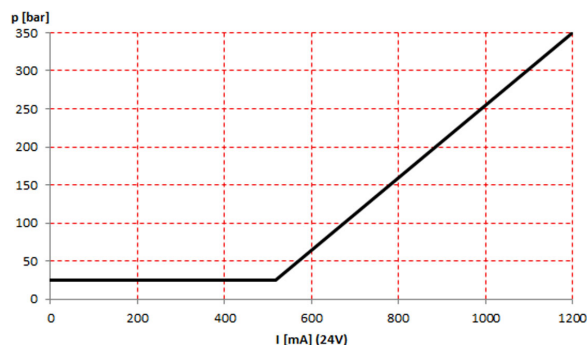
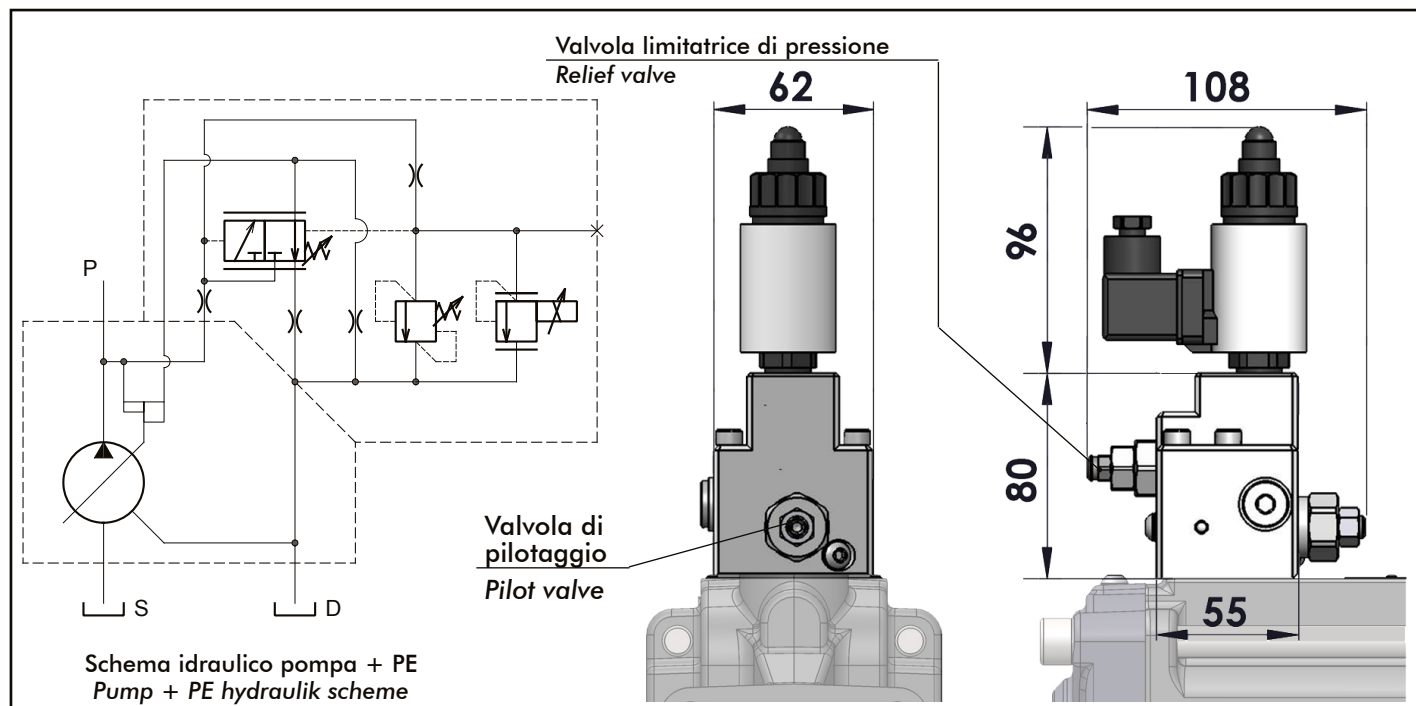
Setting 15 bar/rev.

Adjust the maximum pressure of hydraulic circuit between 20 and 350 bar.

The default setting of the pressure relief valve is 330 bar.

Setting 150 bar/rev.

Pressure regulator with minimum and maximum pressure rates adjustable on the valves and with electrically adjustable intermittent pressure. This control ensures a constant pressure in the hydraulic circuit by changing the flow. It is therefore designed for applications with constant pressure where different flow rates are required: minimum and maximum pressure rates are set mechanically while intermediate pressure is electrically controlled.

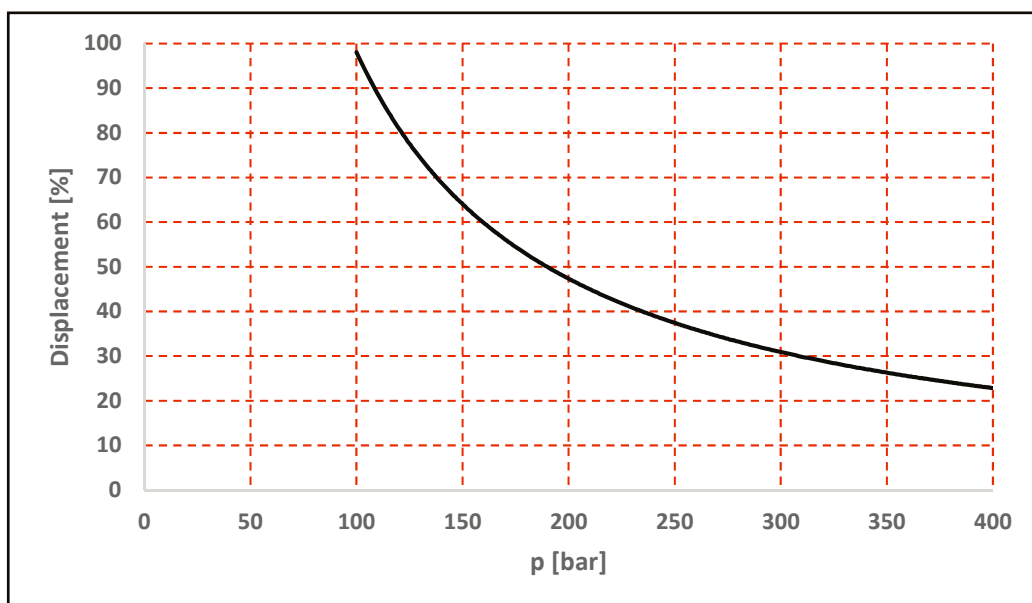
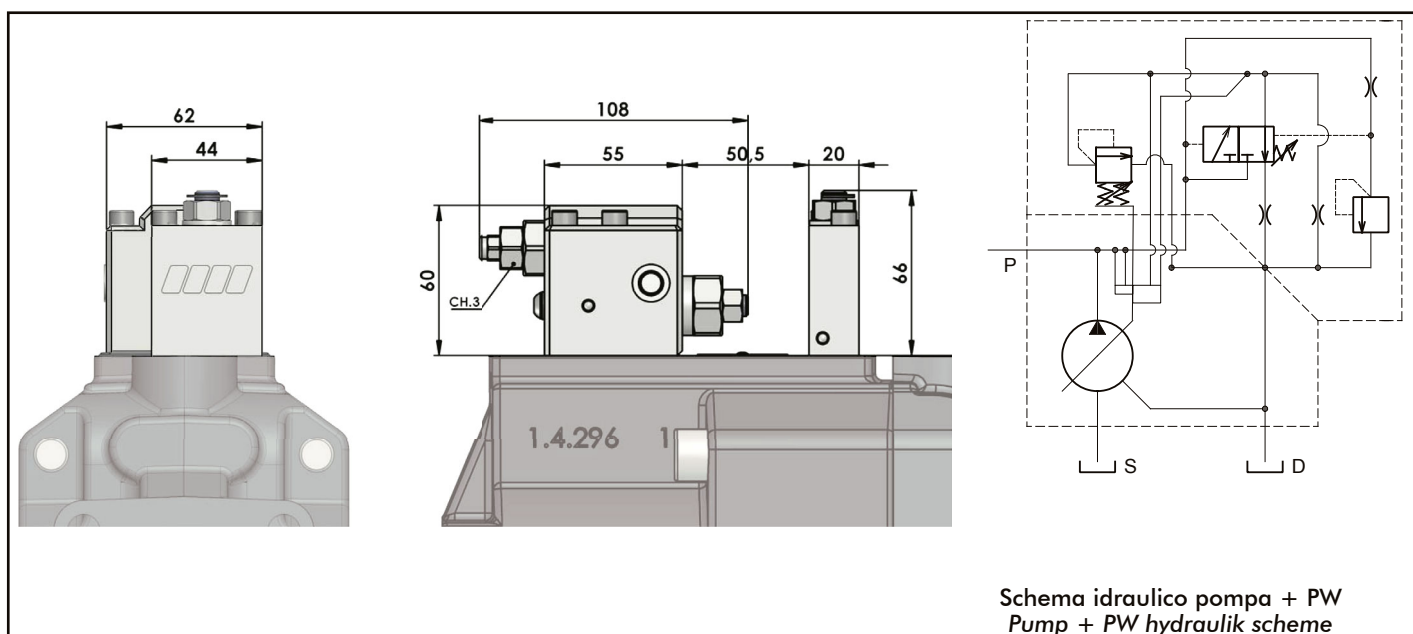


REGOLATORE PW (potenza costante)

Regolatore di potenza massima assorbita con un campo di regolazione di coppia tra i 200 e i 700 Nm. Questo regolatore adatta la cilindrata della pompa in funzione della pressione nell'impianto, in modo che la coppia assorbita non superi il valore impostato in modo che l'albero motore, il motore o la trasmissione siano protetti da sovraccarichi.

PW CONTROL

Maximum absorbed power regulator with a torque adjustment range between 200 and 700 Nm. The regulator adapts the pump displacement according to the pressure in the system, to maintain the pre-adjusted torque value and protect motor shaft, motor or transmission from overloads.



Valvola di flussaggio per circuiti load sensing Flushing valve for load sensing circuit

La valvola garantisce una minima circolazione di olio verso scambiatore di calore o serbatoio per proteggere la pompa da surriscaldamento negli impianti in cui la pompa lavora molto tempo in azzeramento di cilindrata (condizione di stand-by). Durante il funzionamento con distributore o blocchi, la valvola viene esclusa automaticamente con comando idraulico o attraverso un comando elettrico la cui logica di controllo è a carico del cliente.

The valve guarantee small flow through the pump to cooling or tank, in order to protect the pump from overheated on the application with long time in stand-by condition. When a load sensing valve function is engaged the flushing valve is disengaged automatically with hydraulic pilot or with electrical pilot by the logic control of customer.

Caratteristiche tecniche: Portata libera circolazione: 30 l/min Pressione di regolazione: da 2 a 25 bar Pressione massima: 420 bar Porte: G1/4		Technical characteristics: Flow control: 30 l/min Pilot pressure settings: da 2 a 25 bar Maximum pressure: 420 bar Ports: G1/4	
Comando idraulico / Hydraulic pilot		Comando elettrico / Electrical pilot	
Codice / Code		Codice / Code	
B5001072001BC		B5001072002BC	24V DIN
		B5001072003BC	12V DIN
		B5001072004BC	24V DEUTCH
		B5001072005BC	12V DEUTCH

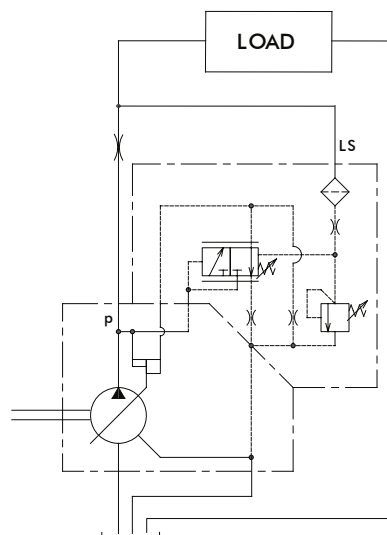
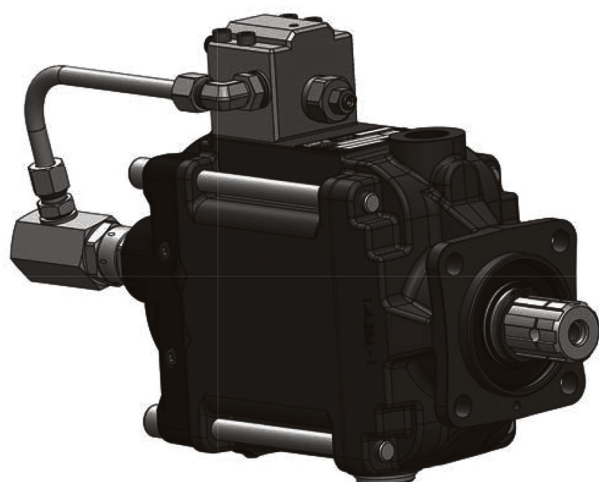
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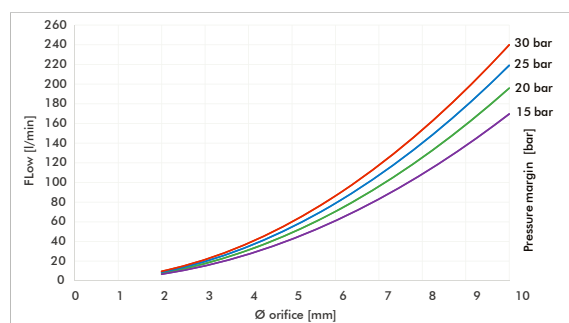
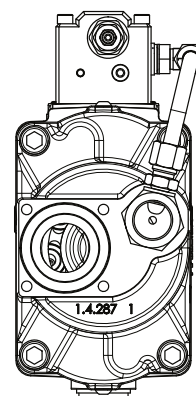
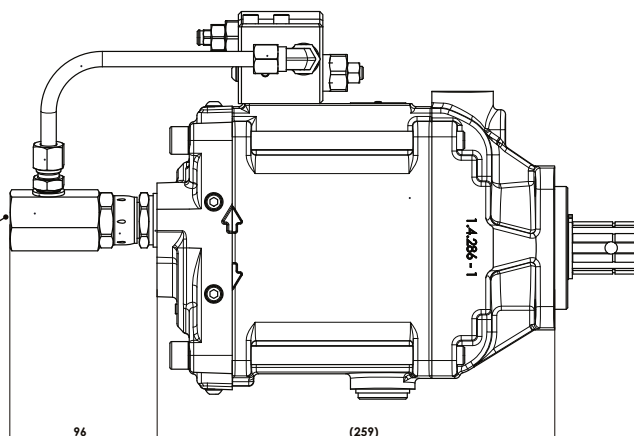
REGOLATORE A PORTATA COSTANTE (CF) CONSTANT FLOW CONTROL (CF)

Il regolatore a portata costante garantisce una portata fissa al variare della velocità e del carico sulla pompa, grazie al compensatore load sensing. Il regolatore mantiene costante la differenza di pressione tra monte e valle dello strozzatore sulla linea P. La taratura del regolatore è variabile tra i 15 e 40 bar.

The constant flow control guarantees a fixed flow rate at different pump speed and load. The regulator keeps the pressure margin across the orifice into P line. Setting of pressure margin: 15 to 40 bar.



PPV60	G3/4
PPV90 110-130	G1



Il regolatore a portata costante è disponibile con diverse tarature di portata, per ogni ulteriore informazioni si prega di contattare il servizio tecnico.

The constant flow regulator is available with different flow settings, for any further information please contact the technical service.

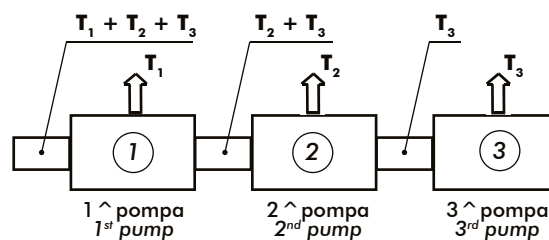
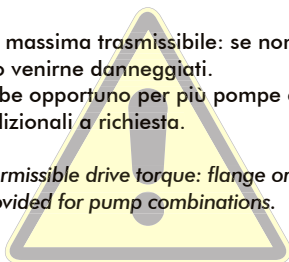
APPLICAZIONI PPV TANDEM TANDEM PPV APPLICATIONS

Versione flange ed alberi (lato uscita) - Flange and shaft version (output side)

	Codice/Code	PPV60	PPV90 PPV110	Descrizione Description	Flangia/Flange	Albero/Shaft	Coppia max. trasmissibile Max. output torque
							T _{OUT} max.
1	11400000839			Solo coperchio Only cover	---	---	---
2	11465000066			ISO	DIN ISO 7653	8x32x36 DIN ISO 14	800 Nm
3	11465000100			ISO	DIN ISO 7653	8x32x36 DIN ISO 14	
4	11465010064			SAE A	SAE A 2-hole J744 82-2 DIN ISO 3019-1	SAE A J744 (16-4 DIN ISO 3019-1) 9T 16/32 DP	100 Nm
5	11465010108			SAE A	SAE A 2-hole J744 82-2 DIN ISO 3019-1	SAE A J744 (16-4 DIN ISO 3019-1) 9T 16/32 DP	
6	11465010162			SAE B	SAE B 2-hole J744 101-2 DIN ISO 3019-1	SAE B J744 (22-4 DIN ISO 3019-1) 13T 16/32 DP	210 Nm
					SAE B 4-hole J744 101-4 DIN ISO 3019-1 Ruotata di 20° / 20° rotation		
7	11465010206			SAE B	SAE B 2-hole J744 101-2 DIN ISO 3019-1	SAE B J744 (22-4 DIN ISO 3019-1) 13T 16/32 DP	210 Nm
					SAE B 4-hole J744 101-4 DIN ISO 3019-1 Ruotata di 20° / 20° rotation		
8	11465010304			SAE BB	SAE B 2-hole J744 101-2 DIN ISO 3019-1	SAE BB J744 (25-4 DIN ISO 3019-1) 15T 16/32 DP	400 Nm
					SAE B 4-hole J744 101-4 DIN ISO 3019-1 Ruotata di 20° / 20° rotation		
9	11465010402			SAE C	SAE C 2-hole J 744 127-2 DIN ISO 3019-1	SAE C J744 (32-4 DIN ISO 3019-1) 14T 12/24 DP	640 Nm
					SAE C 4-hole J 744 127-4 DIN ISO 3019-1		
10	11465030104			European	GR.3 "EUROPEAN"	35x31 DIN 5482	240 Nm

Prestare attenzione alla coppia massima trasmissibile: se non rispettata, la flangia o l'albero potrebbero venirne danneggiati.
Un supporto addizionale sarebbe opportuno per più pompe combinate.
Possibilità di avere versioni aggiuntive a richiesta.

Pay attention to the maximum permissible drive torque: flange or shaft may be damage.
An additional support is to be provided for pump combinations.
Additional version on request.



Coppia 1^a pump T1
Coppia 2^a pump T2
Coppia 3^a pump T3

Coppia in ingresso T_{IN} = T₁ + T₂ + T₃
T_{IN} < 900Nm for 6501TBDDRRX
T_{IN} < 640Nm for 6512TBDDRRX

Coppia in uscita T_{OUT} = T₂ + T₃
T_{OUT, 1} = T₂ + T₃
T_{OUT, 1} < T_{OUT, MAX}..... vedere tabella

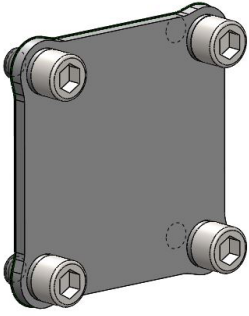
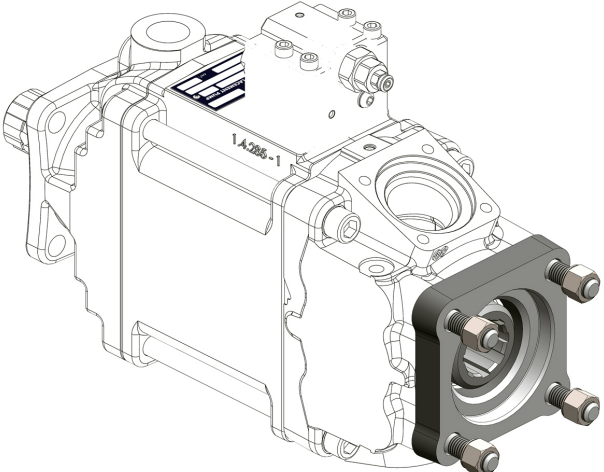
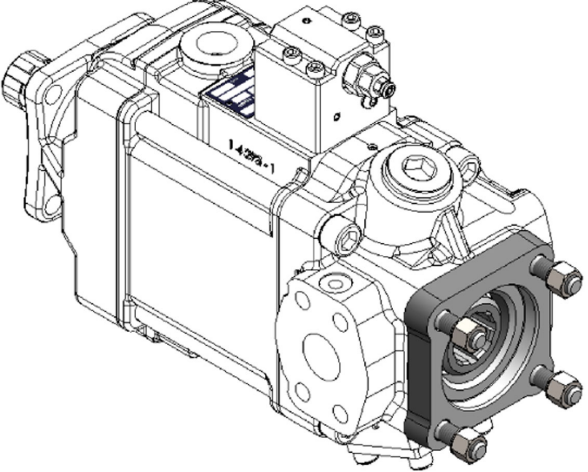
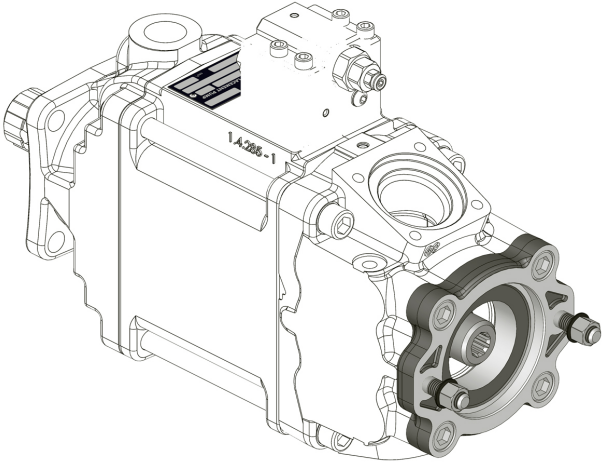
T_{OUT, 2} = T₃
T_{OUT, 2} < T_{OUT, MAX}..... vedere tabella

Torque at 1st pump T1
Torque at 2nd pump T2
Torque at 3rd pump T3

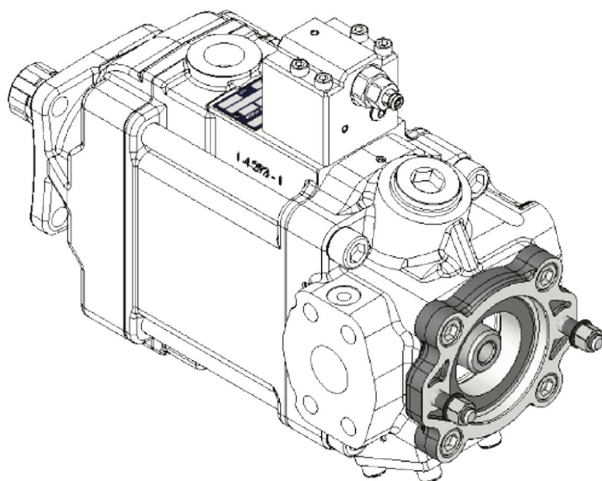
Input torque T_{IN} = T₁ + T₂ + T₃
T_{IN} < 900Nm for 6501TBDDRRX
T_{IN} < 640Nm for 6512TBDDRRX

Output torque T_{OUT} = T₂ + T₃
T_{OUT, 1} = T₂ + T₃
T_{OUT, 1} < T_{OUT, MAX}..... see table

T_{OUT, 2} = T₃
T_{OUT, 2} < T_{OUT, MAX}..... see table

1		11400000839
		COPERCHIO DI CHIUSURA
		COVER
2		11465000066
		APPLICAZIONE PPV60 TANDEM / POMPA ISO 7653 (coppia trasmissibile 800Nm)
		PPV 60 TANDEM / ISO 7653 PUMP ADAPTOR (Max. allowed torque 800Nm)
3		11465000100
		APPLICAZIONE PPV TANDEM MEDIE / POMPA ISO 7653 (coppia trasmissibile 800Nm)
		PPV TANDEM MEDIUM SIZE / ISO 7653 PUMP ADAPTOR (Max. allowed torque 800Nm)
4		11465010064
		APPLICAZIONE PPV60 TANDEM / POMPA SAE A Z9 (coppia trasmissibile 100Nm)
		PPV 60 TANDEM / SAE A Z9 PUMP ADAPTOR (Max. allowed torque 100Nm)

5

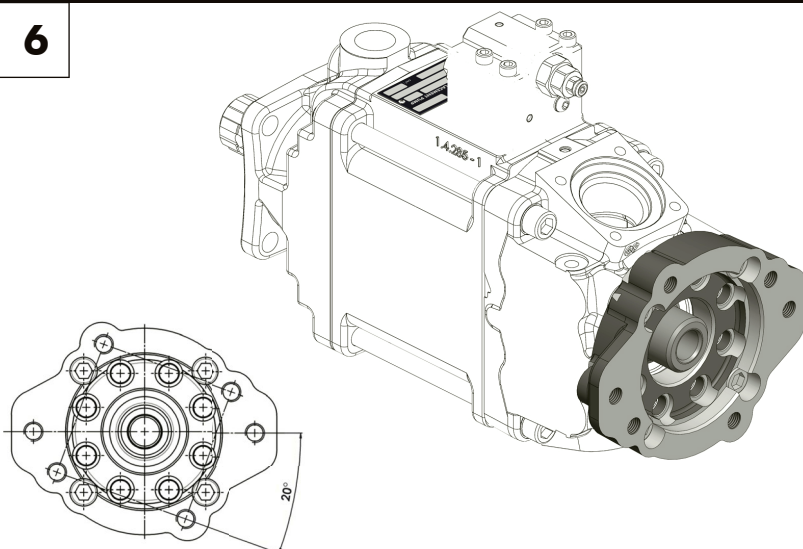


11465010108

APPLICAZIONE PPV TANDEM MEDIE
/
POMPA SAE A Z9
(coppia trasmissibile 100Nm)

PPV TANDEM MEDIUM SIZE
/
SAE A Z9 PUMP ADAPTOR
(Max. allowed torque 100Nm)

6

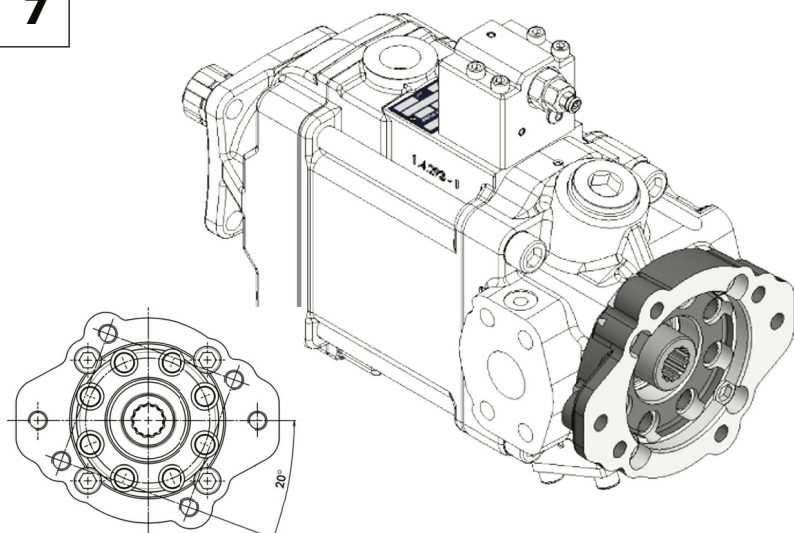


11465010162

APPLICAZIONE PPV60 TANDEM
/
POMPA SAE B Z13
(coppia trasmissibile 210Nm)

PPV 60 TANDEM
/
SAE B Z13 PUMP ADAPTOR
(Max. allowed torque 210Nm)

7



11465010206

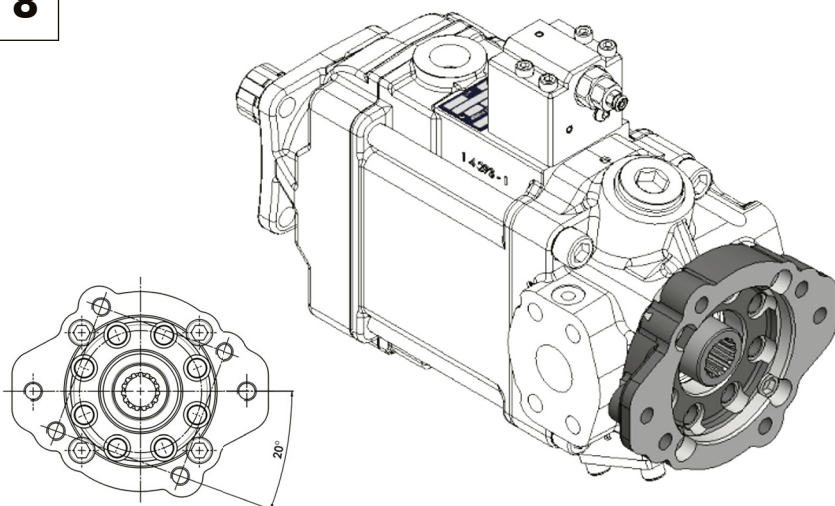
APPLICAZIONE PPV TANDEM MEDIE
/
POMPA SAE B Z13
(coppia trasmissibile 210Nm)

PPV TANDEM MEDIUM SIZE
/
SAE B Z13 PUMP ADAPTOR
(Max. allowed torque 210Nm)

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8

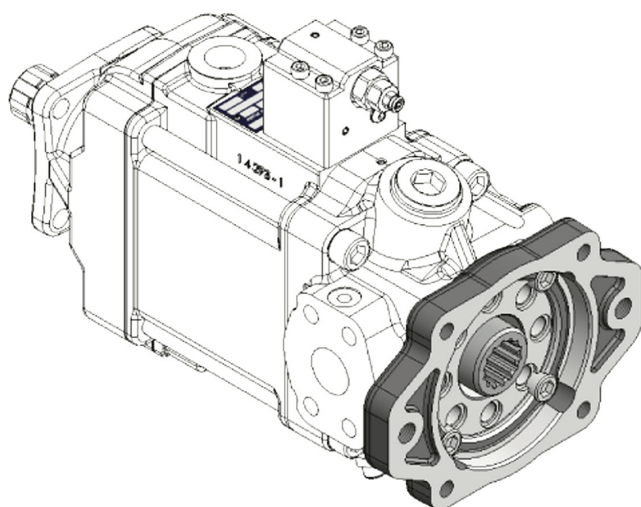


11465010304

APPLICAZIONE PPV TANDEM MEDIE
/
POMPA SAE BB Z15
(coppia trasmissibile 400Nm)

PPV TANDEM MEDIUM SIZE
/
SAE BB Z15 PUMP ADAPTOR
(Max. allowed torque 400Nm)

9

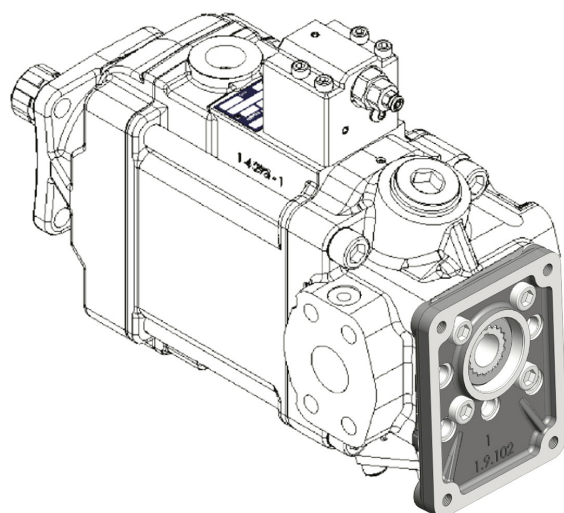


11465010402

APPLICAZIONE PPV TANDEM MEDIE
/
POMPA SAE C Z14
(coppia trasmissibile 640Nm)

PPV TANDEM MEDIUM SIZE
/
SAE C Z14 PUMP ADAPTOR
(Max. allowed torque 640Nm)

10



11465030104

APPLICAZIONE PPV TANDEM MEDIE
/
GR.3 "EUROPEAN"
(coppia trasmissibile XXXNm)

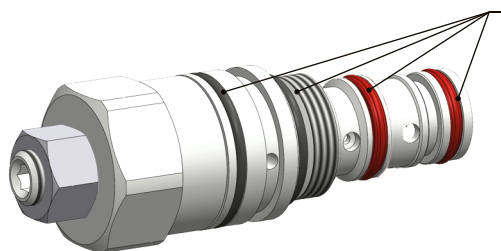
PPV TANDEM MEDIUM SIZE
/
GR.3 "EUROPEAN"
(Max. allowed torque XXXNm)

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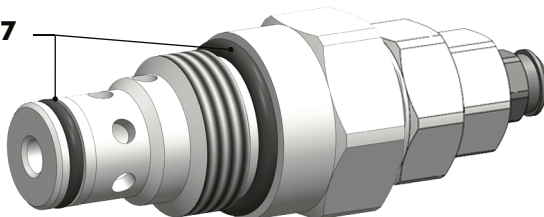
RICAMBI E GUARNIZIONI GASKETS AND SPARE PARTS

Kit guarnizioni
Gaskets kit 10895060028



Valvola LS
LS valve
10896090100

Kit guarnizioni
Gaskets kit 10895060037



**Valvola limitatrice
di pressione**
Relief valve
10896090208

PPV 60-90-110

Blocchetto LS - LS block
10896000242

50600019597

50600019588 (n°3)

50600024272

50600013137

Kit guarnizioni completo
Gaskets kit assembly
10895060019

50600012093 (PPV 60) (n°2)
50600012093 (PPV 90-110) (n°4)

50600011620 (PPV 60)
50600019551 (PPV 90-110)

50600011220 (PPV 60)

50600019579 (PPV 90-110)

50600019542 (n°2) - PPV 60
50600010106 (n°2) - PPV 90-110

Kit guarnizioni pompa completo - Pump gaskets kit assembly
10895060608 (PPV 60) / 10895060751 (PPV 90-110)

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OMFB

HYDRAULIC COMPONENTS

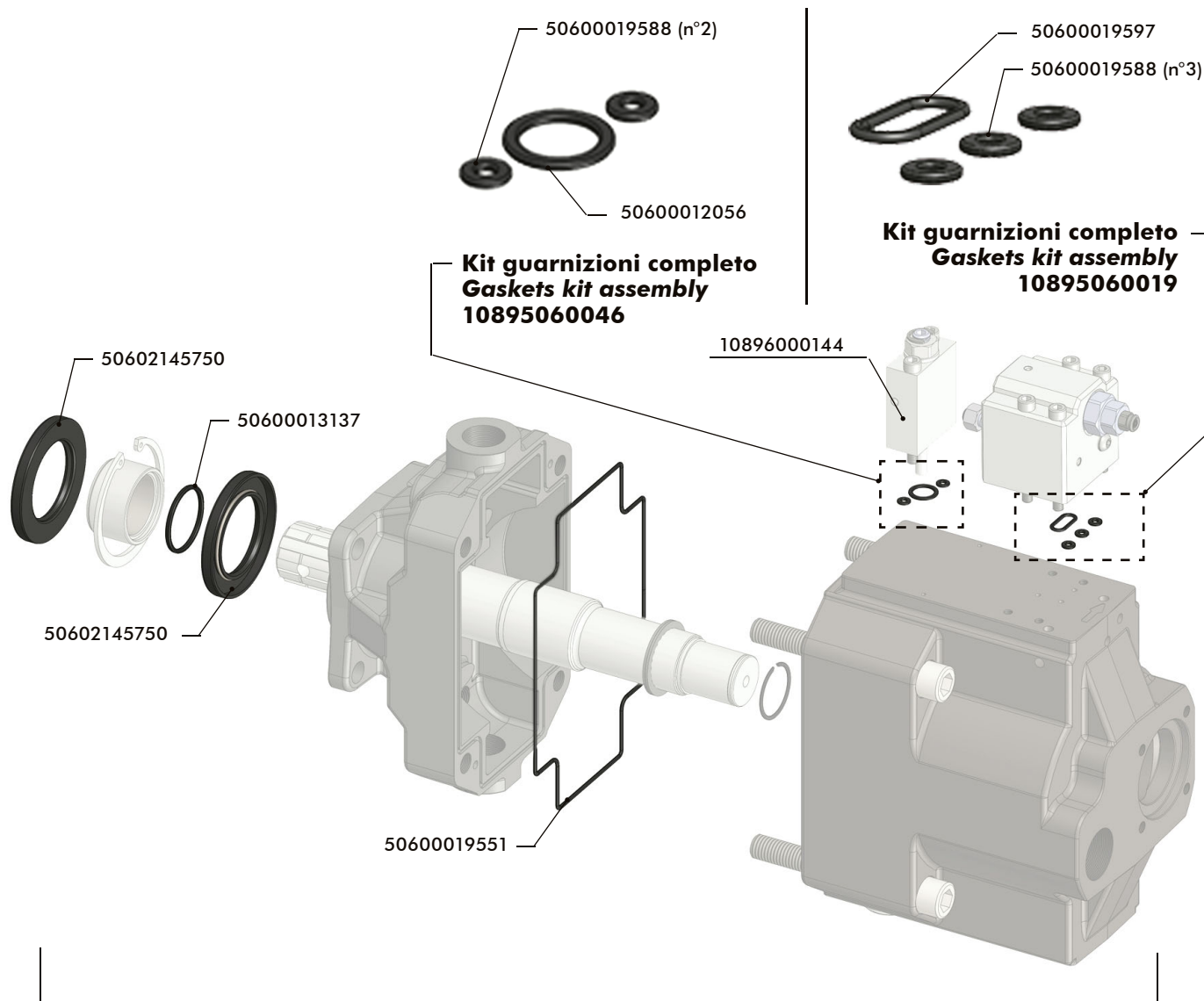
O.M.F.B. S.p.a. Hydraulic Components

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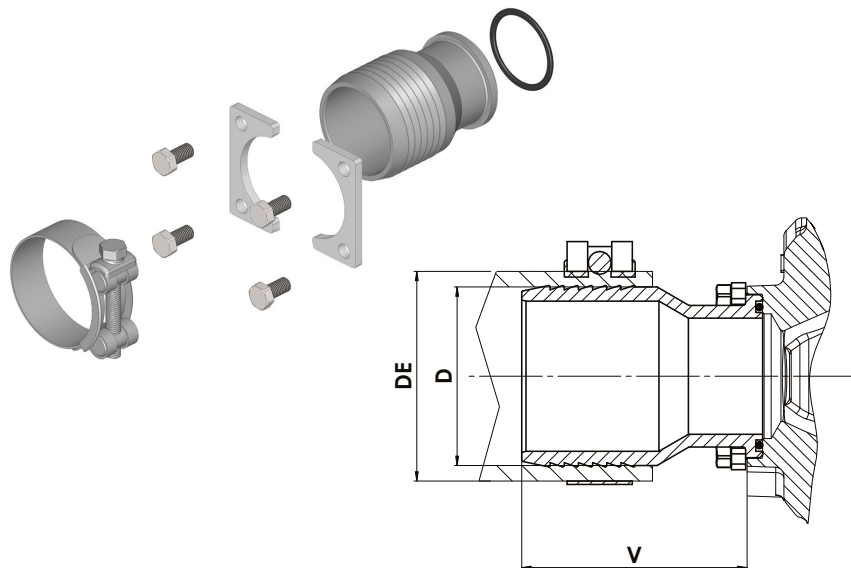
Ricambi piatto distributore Port plate spare parts

Tipo pompa Pump type		Kit ricambio piatto distributore Port plate spare part kit
PPV 60	DX	108-960-20604
	SX	108-960-10606
PPV 90	DX	108-960-20908
	SX	108-960-10900
PPV 110	DX	108-960-21103
	SX	108-960-11105

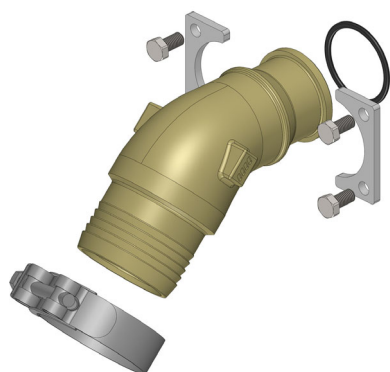
DX = Piastra di distribuzione rotazione destrorsa / Port plate for clockwise rotation
SX = Piastra di distribuzione rotazione sinistrorsa / Port plate for counter rotation

ACCESSORI ACCESSORIES

RACCORDI ASPIRAZIONE SUCTION FITTINGS

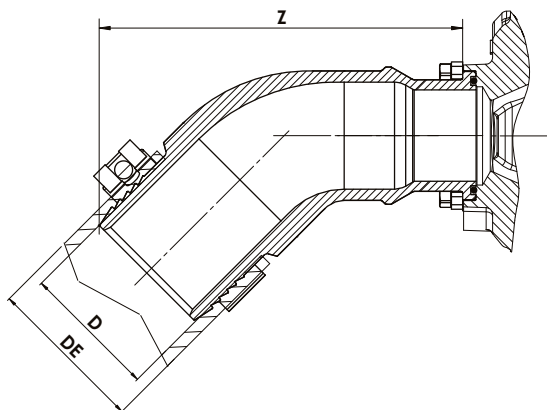


Codice Code	D	DE	V	Peso Weight
	mm	mm	mm	Kg
15511200507	50	60-63	59	0,59
15511200516	50	64-67	59	0,6
15511200605	60	68-73	79	0,77
15511200632	63	74-79	79	0,8
15511200767	76	86-91	94	1



45°

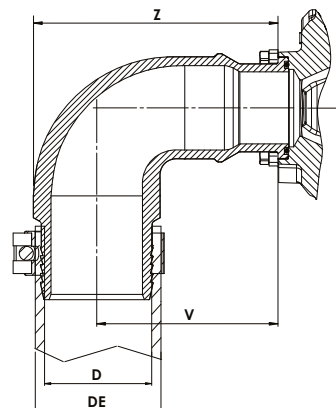
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	mm	mm	mm	Kg
15511245504	50	60-63	141	1
15511245513		64-67		
15511245602	60	68-73	161	1,4
15511245639	63	74-79	163	1,7
15511245764	76	86-91	167	2,1



90°



Codice Code	D	DE	V	Z	Peso Weight
	mm	mm	mm	mm	Kg
15511290509	50	60-63	94	120	1,1
15511290518		64-67			
15511290607	60	68-73	103	139	1,5
15511290634	63	74-79	103	139	1,9
15511290769	76	86-91	103	140	2,3



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HYDRAULIC COMPONENTS

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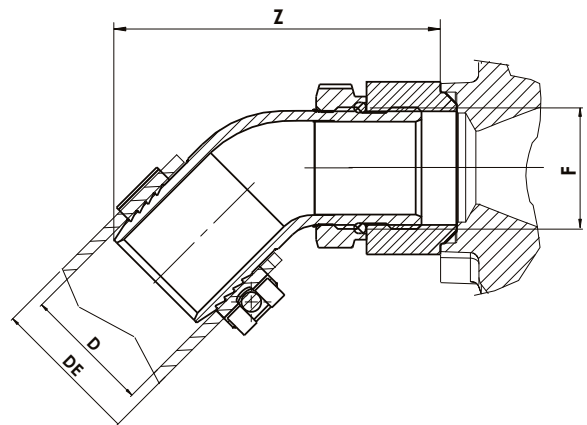
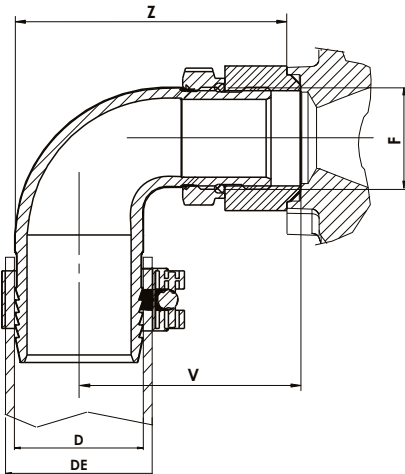
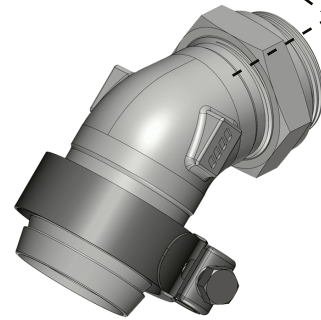
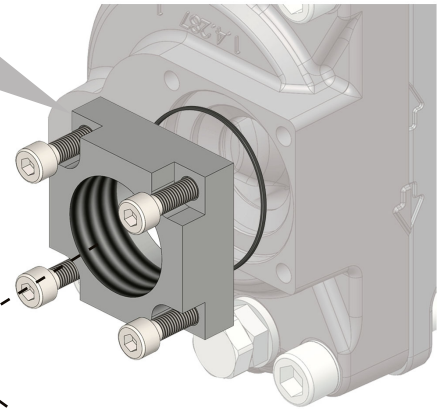
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15511300408

Kit flangia foro filettato G1-1/2, per montaggio raccordi GOLD.
Flange kit G1-1/2 threaded hole, for mounting GOLD fittings.



Codice Code	F	D	DE	V	Z	Peso Weight
	ISO 228	mm	mm	mm	mm	Kg
15510000592	G1-1/2	50	60-63	85	114	0,99
15510000609			64-67			1
15510000654		60	68-73	88	123	1,06

Codice Code	F	D	DE	Z	Peso Weight
	ISO 228	mm	mm	mm	Kg
15509000540	G1-1/2	50	60-63	133	0,79
15509000559			64-67		0,82
15509000611		60	68-73	153	1