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NEW

titan POWER

3TPW

Cast Iron Gear Pump

3TPW CAST IRON GEAR PUMP

- Long life expectancy
- High efficiency
- High pressure limits
- Reduced number of components
- Reduced overall dimension

Walvoil presents the new range of 3TPW Cast Iron Pumps.
These pumps are particularly suitable for all applications where traditional aluminum pumps are used at the limit of their performance; eg. for installation on mobile equipment intended for heavy duty operating cycles, where pressures or mechanical stresses are typically higher.

Its two-piece construction allows an increase in pressures with P1 up to 300 bar *(4350 psi)* pressure on a wide displacement range of 23.9 to 79.8 cm³/rev *(1.46 to 4.87 in³/rev)*.
The new 3TPW completes the cast iron pump range. Thanks to a wide range of integrated valves, this pump is suitable for mobile applications in Agricultural and Construction/Earth Moving sectors (Skid Steer Loaders, Telehandlers and Backhoe Loaders).

WORKING CONDITIONS

Displacement		from 23.9 to 79.8 cm³/rev *from 1.46 to 4.87 in³/rev*
Max continuous pressure	Up to	300 bar *4350 psi*
Fluid		hydraulic mineral oil-based
Fluid temperature	With NBR (buna N) seals	from -20 to +80 °C *from -4 to +176 °F*
Viscosity	Recommended	from 15 to 92 mm²/s (cSt)
	Permitted for starting	2000 mm²/s (cSt)
Max level of contamination	Recommended for operating pressure > 150 bar *(2150 psi)*	20/18/15 ISO 4406 *class 9 (NAS 1638)*
	Recommended for operating pressure < 150 bar *(2150 psi)*	21/19/16 ISO 4406 *class 10 (NAS 1638)*

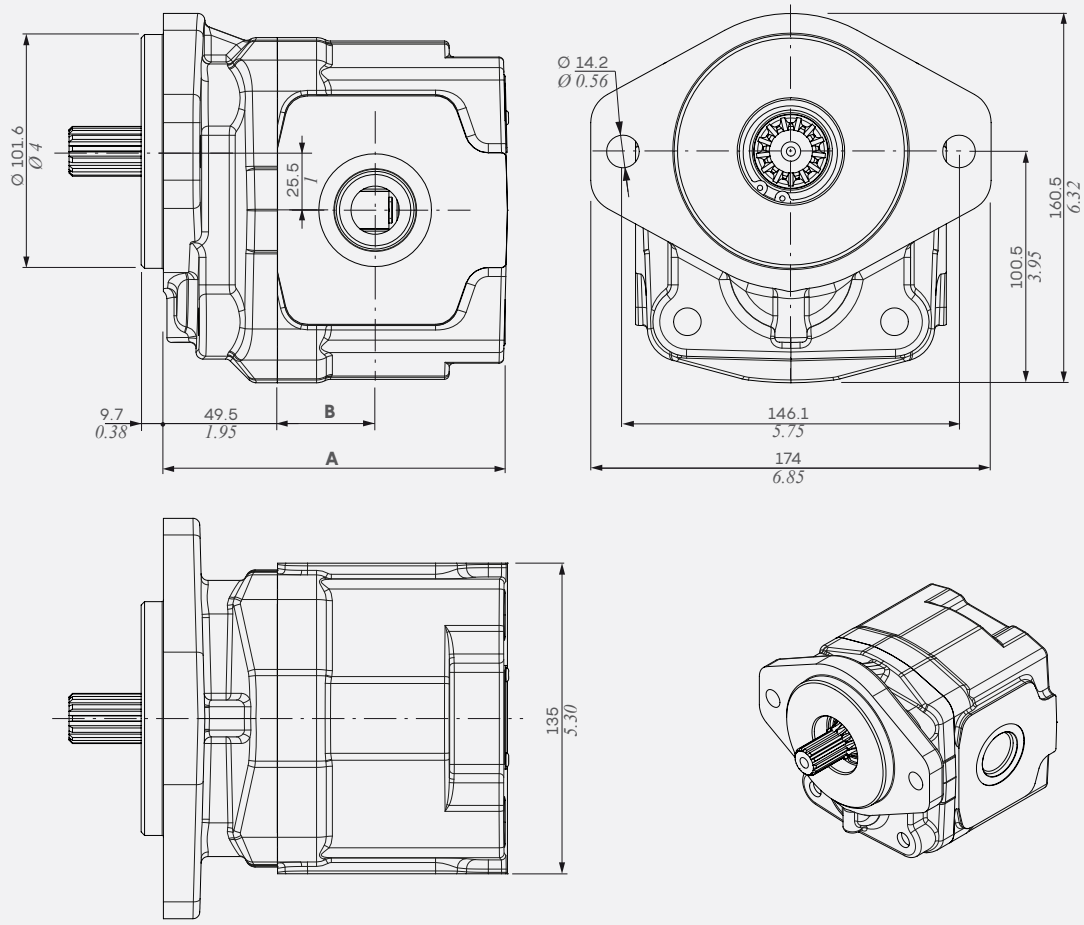
Note: For motor configuration, please contact Sales Department.

TECHNICAL DATA

Group 3TPW	Displacement		Max continuous pressure		Max intermittent pressure		Max peak pressure		Max rotation speed
	cm³/rev	*in³/rev*	bar	*psi*	bar	*psi*	bar	*psi*	rpm
230	23.9	*1.46*	300	*4.350*	320	*4.640*	330	*4.785*	3000
280	28	*1.71*	300	*4.350*	320	*4.640*	330	*4.785*	3000
320	32.2	*1.96*	300	*4.350*	320	*4.640*	330	*4.785*	3000
390	39.7	*2.42*	300	*4.350*	320	*4.640*	330	*4.785*	3000
430	43.8	*2.67*	300	*4.350*	320	*4.640*	330	*4.785*	3000
470	47.9	*2.92*	290	*4.205*	310	*4.495*	320	*4.640*	3000
520	52	*3.18*	290	*4.205*	310	*4.495*	320	*4.640*	2800
560	56.8	*3.47*	290	*4.205*	310	*4.495*	320	*4.640*	2500
600	60.9	*3.72*	270	*3.915*	290	*4.205*	300	*4.350*	2500
650	65	*3.97*	250	*3.625*	270	*3.915*	280	*4.060*	2500
710	71.6	*4.37*	230	*3.335*	250	*3.625*	260	*3.770*	2500
790	79.8	*4.87*	210	*3.045*	230	*3.335*	240	*3.480*	2500

DIMENSIONAL DATA

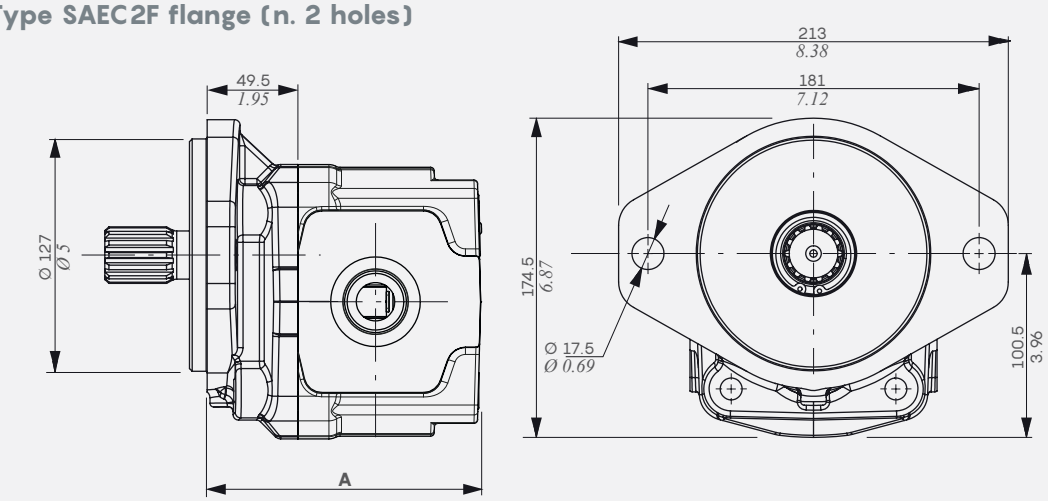
The dimensional drawing represents the version with **SAEB** flange (for other flanges, see the next page).



Group 3TPW	Dimension A		Dimension B Porting type					
			G (BSP) W (UN-UNF) F (SAE)		N (EUROPEAN)		T (GERMAN)	
	mm	*in*	mm	*in*	mm	*in*	mm	*in*
230	125.5	*4.94*	27	*1.06*	35	*1.37*	33	*1.3*
280	128.5	*5.06*	30	*1.18*	35	*1.37*	33	*1.3*
320	131.5	*5.18*	32	*1.26*	36	*1.41*	34	*1.33*
390	137	*5.39*	36	*1.41*	37	*1.46*	36	*1.41*
430	140	*5.51*	38.5	*1.51*	38	*1.50*	38.5	*1.51*
470	143	*5.63*	41	*1.61*	39	*1.53*	41	*1.61*
520	146	*5.75*	41	*1.61*	40	*1.57*	41	*1.61*
560	149.5	*5.88*	42.5	*1.67*	40	*1.57*	42.5	*1.67*
600	152.5	*6*	43.5	*1.71*	40	*1.57*	43.5	*1.71*
650	155.5	*6.12*	44.5	*1.75*	44	*1.73*	44.5	*1.75*
710	160.5	*6.32*	46	*1.81*	49	*1.93*	46	*1.81*
790	166.5	*6.55*	52	*2.04*	55	*2.16*	52	*2.04*

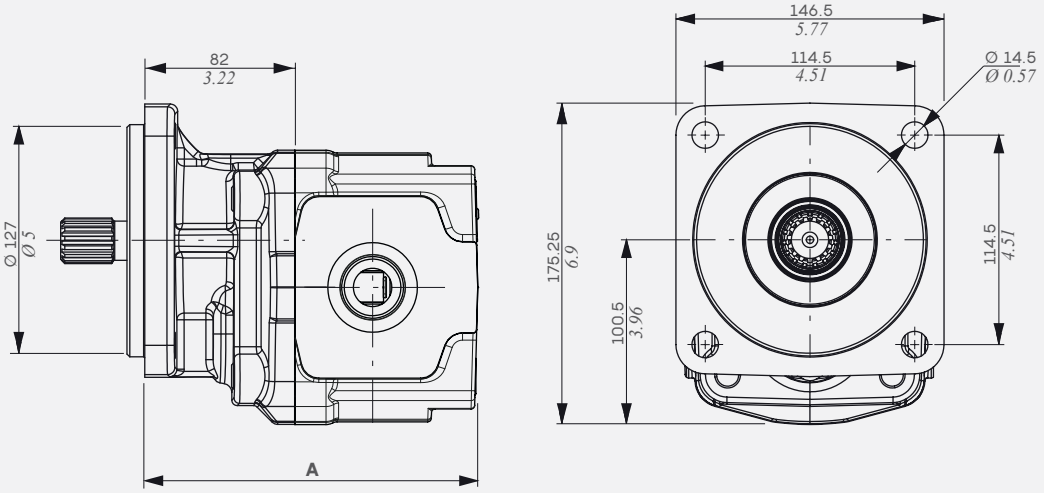
DIMENSIONAL DATA

Type SAEC2F flange (n. 2 holes)



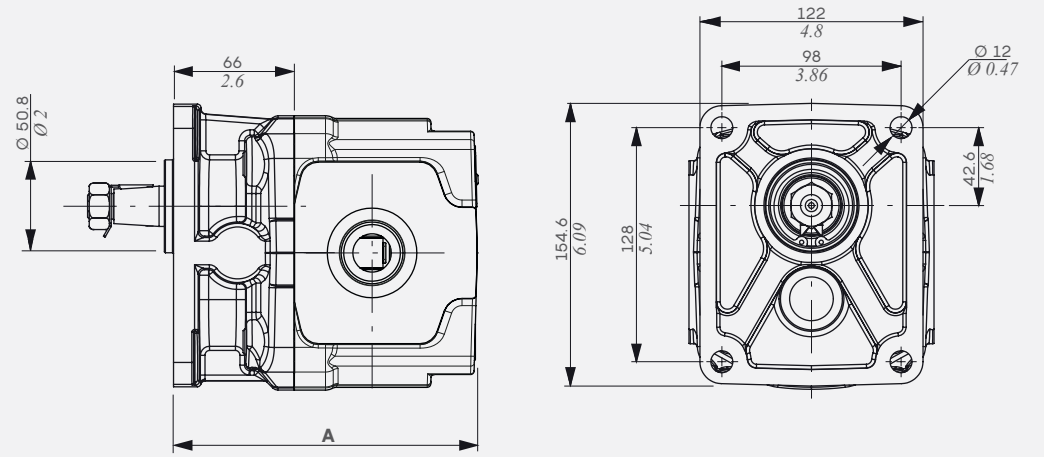
Group 3TPW	A mm	A in
230	125.5	4.94
280	128.5	5.06
320	131.5	5.18
390	137	5.39
430	140	5.51
470	143	5.63
520	146	5.75
560	149.5	5.88
600	152.5	6
650	155.5	6.12
710	160.5	6.32
790	166.5	6.55

Type SAEC4F flange (n. 4 holes)



Group 3TPW	A mm	A in
230	158	6.22
280	161	6.33
320	164	6.45
390	169.5	6.67
430	172.5	6.78
470	175.5	6.90
520	178.5	7.02
560	182	7.16
600	185	7.28
650	188	7.40
710	193	7.59
790	199	7.83

Type EUR flange



Group 3TPW	A mm	A in
230	142	5.59
280	145	5.7
320	148	5.83
390	153.5	6.04
430	156.5	6.16
470	159.5	6.28
520	162.5	6.4
560	166	6.53
600	169	6.65
650	172	6.77
710	177	6.97
790	183	7.20

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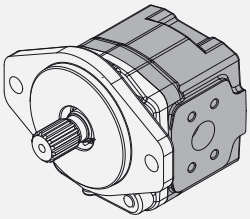
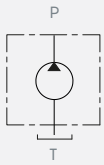
CONFIGURATIONS

G0 body

Single stage

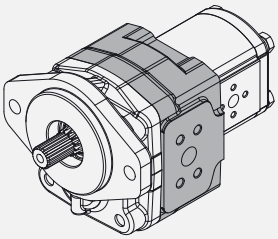


3TPW
example

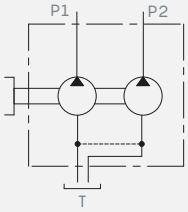


G2 body

Stage for G2 pump connection

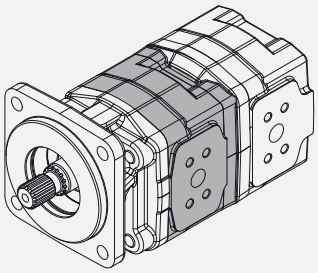


3TPW + 2SP
example

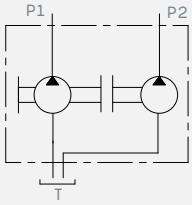


G3 body

Stage for G3 pump connection needs a kit flange for implementing 3TPW+3TPW

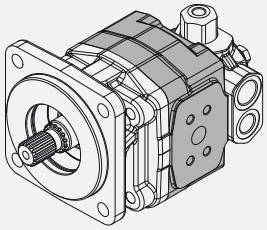


3TPW + 3TPW
example

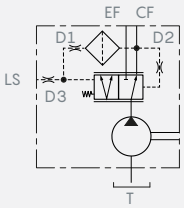


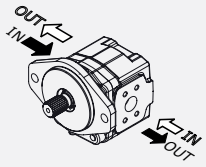
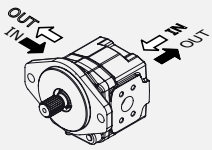
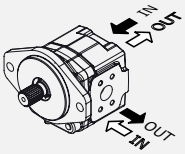
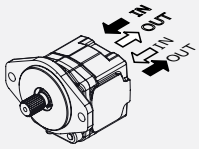
GV body

Stage for auxiliary valves



3TPW + AUX
example



Connection position			
0	1	3	4
			

Clockwise rotation - **D**

Anti-clockwise rotation - **S**

Auxiliary valves for GV body	
VLPI	Pressure relief valve (internal drain)
VLPE	Pressure relief valve (external drain)
VRF	Flow regulator
VRFVLP	Flow divider and relief valve
UNLD	Unloading valve
CP	Priority valve
VA	Anticavitation valve
VMA	Anticavitation and Antishock valve

Portings and connections		porting type				
		G	W	T	N	F
connections options	0	●	●	●	●	●
	1	●	●	-	-	-
	3	●	●	-	-	-
	4	●*	●*	-	-	-

Note(*): Only for G0 body
(-): For available connection, please contact our Sales Dpt.

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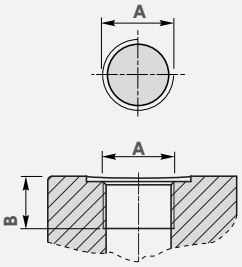
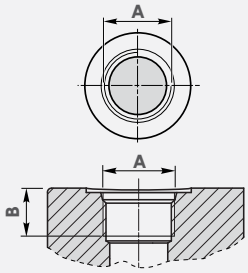
PORTS AND CONNECTIONS

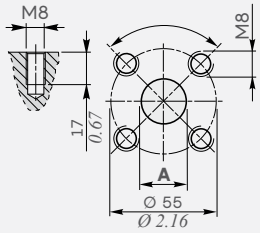
G: BSP



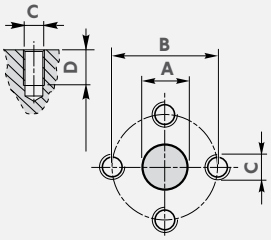
W: UN-UNF



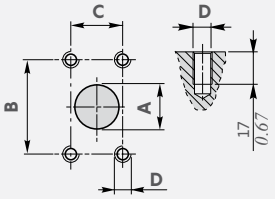
T: German Flange



N: European Flange



F: SAE J518-1 connection



Group 3TPW	Port Threading													
	G (BSP)						W (UN-UNF)				T (GERMAN)			
	A		B				A		B		A			
	IN	OUT	IN		OUT		IN	OUT	IN-OUT		Ø IN		Ø OUT	
			mm	in	mm	in			mm	in	mm	in	mm	in
230	G 1	G 3/4	20	0.79	18	0.71	SAE16	SAE12	20.5	0.81	27	1.06	19	0.75
280	G 1	G 3/4	20	0.79	18	0.71	SAE16	SAE12	20.5	0.81	27	1.06	19	0.75
320	G 1 1/4	G 1	20	0.79	18	0.71	SAE20	SAE16	20.5	0.81	27	1.06	19	0.75
390	G 1 1/4	G 1	20	0.79	18	0.71	SAE20	SAE16	20.5	0.81	27	1.06	19	0.75
430	G 1 1/4	G 1	20	0.79	18	0.71	SAE20	SAE16	20.5	0.81	27	1.06	19	0.75
470	G 1 1/4	G 1	20	0.79	18	0.71	SAE20	SAE16	20.5	0.81	27	1.06	19	0.75
520	G 1 1/4	G 1	20	0.79	18	0.71	SAE20	SAE16	20.5	0.81	27	1.06	19	0.75
560	G 1 1/4	G 1	20	0.79	18	0.71	SAE20	SAE16	20.5	0.81	27	1.06	19	0.75
600	G 1 1/4	G 1	20	0.79	18	0.71	SAE20	SAE16	20.5	0.81	27	1.06	19	0.75
650	G 1 1/4	G 1	20	0.79	18	0.71	SAE20	SAE16	20.5	0.81	27	1.06	19	0.75
710	G 1 1/4	G 1	20	0.79	18	0.71	SAE20	SAE16	20.5	0.81	27	1.06	19	0.75
790	G 1 1/4	G 1	20	0.79	18	0.71	SAE20	SAE16	20.5	0.81	27	1.06	19	0.75

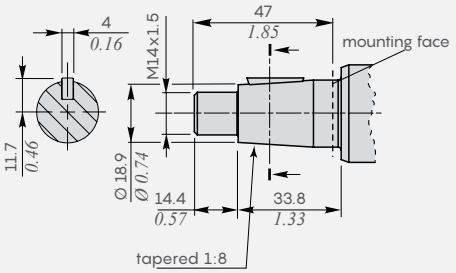
Group 3TPW	Port Threading													
	N (EUROPEAN)													
	A				B				C		D			
	Ø IN		Ø OUT		Ø IN		Ø OUT		Ø IN	Ø OUT	IN		OUT	
	mm	in	mm	in	mm	in	mm	in			mm	in	mm	in
230	27	1.06	19	0.75	51	2.01	40	1.57	M10	M8	17	0.67	15	0.59
280	27	1.06	19	0.75	51	2.01	40	1.57	M10	M8	17	0.67	15	0.59
320	27	1.06	19	0.75	51	2.01	40	1.57	M10	M8	17	0.67	15	0.59
390	27	1.06	19	0.75	51	2.01	40	1.57	M10	M8	17	0.67	15	0.59
430	27	1.06	19	0.75	51	2.01	40	1.57	M10	M8	17	0.67	15	0.59
470	27	1.06	19	0.75	51	2.01	40	1.57	M10	M8	17	0.67	15	0.59
520	27	1.06	19	0.75	51	2.01	40	1.57	M10	M8	17	0.67	15	0.59
560	27	1.06	19	0.75	51	2.01	40	1.57	M10	M8	17	0.67	15	0.59
600	27	1.06	19	0.75	51	2.01	40	1.57	M10	M8	17	0.67	15	0.59
650	33	1.3	19	0.75	62	2.44	40	1.57	M12	M8	17	0.67	15	0.59
710	33	1.3	27	1.06	62	2.44	51	2.01	M12	M10	17	0.67	15	0.59
790	33	1.3	27	1.06	62	2.44	51	2.01	M12	M10	17	0.67	15	0.59

Group 3TPW	Port Threading													
	F (SAE J518-1 connection)													
	A				B				C				D	
	Ø IN		Ø OUT		Ø IN		Ø OUT		Ø IN		Ø OUT		Ø IN	Ø OUT
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		
230	25	0.98	19	0.75	52.4	2.06	47.6	1.87	26.2	1.03	22.2	0.87	M10	M10
280	25	0.98	19	0.75	52.4	2.06	47.6	1.87	26.2	1.03	22.2	0.87	M10	M10
320	32	1.25	19	0.75	58.7	2.31	47.6	1.87	30.2	1.19	22.2	0.87	M10	M10
390	32	1.25	19	0.75	58.7	2.31	47.6	1.87	30.2	1.19	22.2	0.87	M10	M10
430	32	1.25	25	0.98	58.7	2.31	52.4	2.06	30.2	1.19	26.2	1.03	M10	M10
470	39	1.53	25	0.98	69.8	2.75	52.4	2.06	35.7	1.4	26.2	1.03	M12	M10
520	39	1.53	25	0.98	69.8	2.75	52.4	2.06	35.7	1.4	26.2	1.03	M12	M10
560	39	1.53	32	1.25	69.8	2.75	58.7	2.31	35.7	1.4	30.2	1.19	M12	M10
600	39	1.53	32	1.25	69.8	2.75	58.7	2.31	35.7	1.4	30.2	1.19	M12	M10
650	39	1.53	32	1.25	69.8	2.75	58.7	2.31	35.7	1.4	30.2	1.19	M12	M10
710	39	1.53	32	1.25	69.8	2.75	58.7	2.31	35.7	1.4	30.2	1.19	M12	M10
790	39	1.53	32	1.25	69.8	2.75	58.7	2.31	35.7	1.4	30.2	1.19	M12	M10

SHAFT TYPES

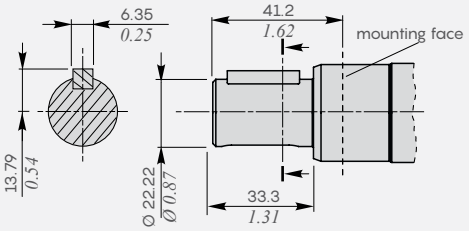
Type 10

Torque 240 Nm - *178 lbft*



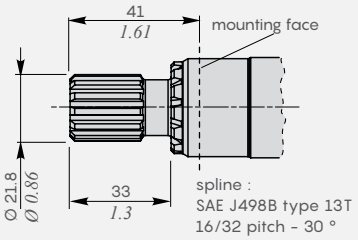
Type 13

Torque 240 Nm - *148 lbft*



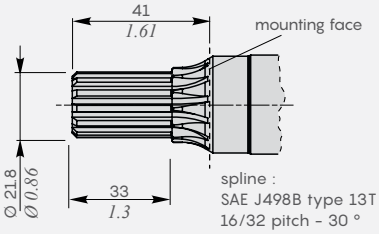
Type S13

Torque 280 Nm - *207 lbft*



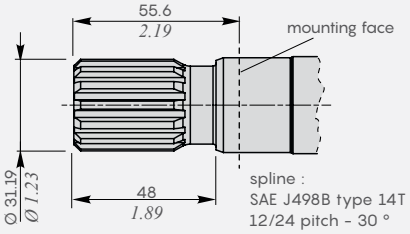
Type S13N

Torque 300 Nm - *221 lbft*



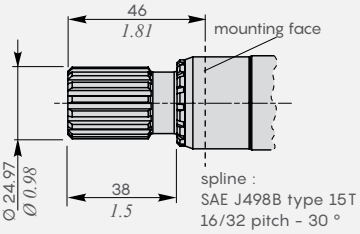
Type S14 - S14L

Torque 900 Nm - *664 lbft*

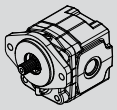
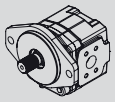
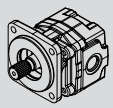
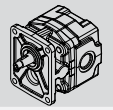


Type S15 - S15L

Torque 400 Nm - *296 lbft*

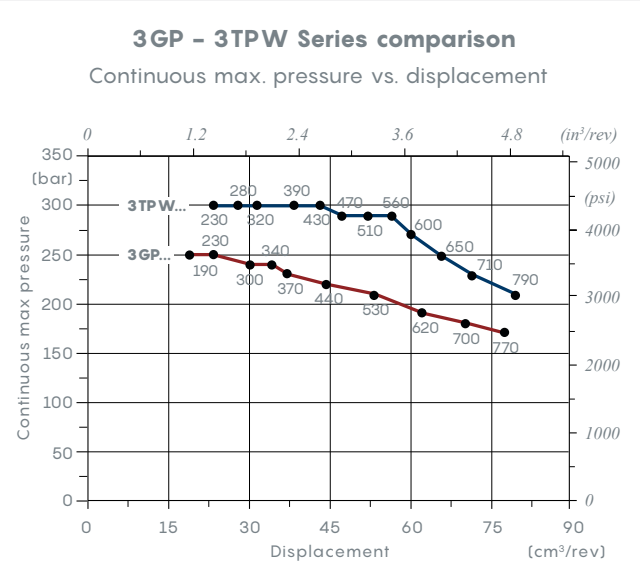


SHAFT - FLANGE COMBINATION

Group 3TPW		Shaft type							
		10 Tapered 1:8	**13** SAE B 7/8"	**S13** SAE B 13T	**S13N** SAE B 13T NS	**S14** SAE C 14T	**S14L** SAE C 14T L	**S15** SAE B 15T	**S15L** SAE B 15T L
SAEB		-	◇	◇	◇	◇	-	◇	-
SAEC2F		-	◇	◇	◇	◇	-	◇	-
SAEC4F		-	-	-	-	-	◇	-	◇
EUR		◇	-	-	-	-	-	-	-

◇ = STANDARD COMBINATION

3 G P - 3 T P W C O M P A R I S O N



D E S C R I P T I O N C O M P O S I T I O N

3TPW - G0 - 600 - D - SAEB2F - B - N - S13 - 0 - F

Pump type

Body type
- **G0**: single stage
- **G2**: stage for pumps connection
- **G3**: stage for pumps connection
- **GV**: stage for auxiliary valves

Displacement*

Rotation direction
- **D**: clockwise rotation
- **S**: anti-clockwise rotation

Flange type
- **SAEB 2 holes**
- **SAEC2F 2 holes**
- **SAEC4F 4 holes**
- **EUR**

O-ring seals shaft type
- **B**: for pressure up to 3 bar - *43.5 psi*

O-ring seals
- **N**: NBR

Shaft type
- **10**: tapered 1:8
- **13**: SAEB 7/8"
- **S13**: SAEB 13T
- **S13N**: SAEB 13T NS
- **S14**: SAEC 14T
- **S14L**: SAEC 14T L
- **S15**: SAEB 15T
- **S15L**: SAEB 15T L

Connection position(*1)
- **0 - 1 - 3 - 4**

Connection type
- **G**: BSP threading
- **W**: UN-UNF threading
- **N**: european flange
- **T**: german flange
- **F**: SAE J518-1 flange

(*) for displacement types, see "technical data" table
(*1) for position tipes, see "configuration" table

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