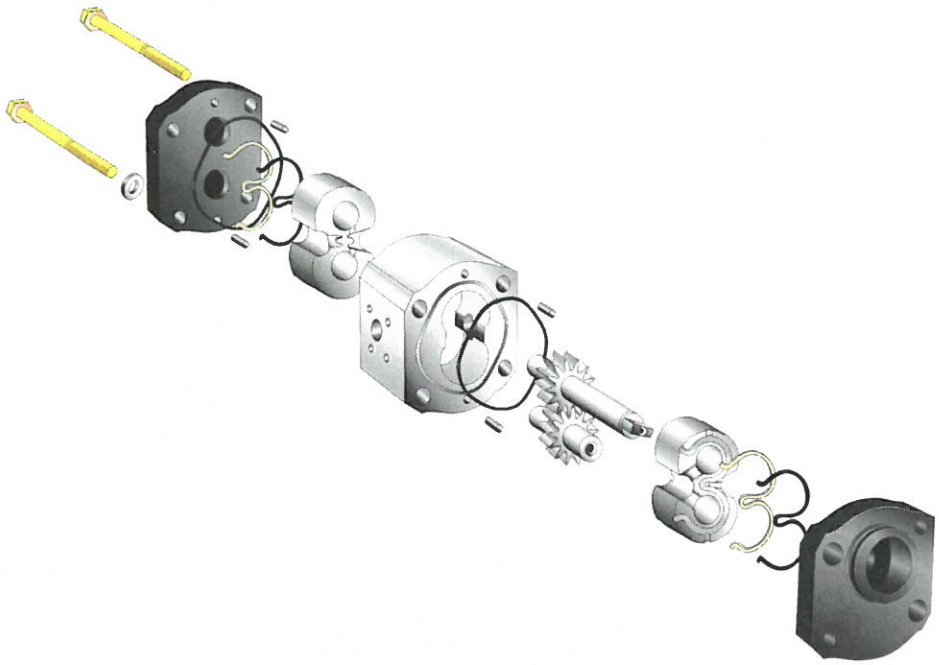


Model code example for a single pump

WP	09	A	1	B	190	R	03	FA	521	N
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① = Type
② = Series
③ = Design revision
④ = # of sections
⑤ = Seal material
⑥ = Displacement per section
⑦ = Rotation
⑧ = Mounting flange
⑨ = Drive shaft
⑩ = Portings
⑪ = Valve options

W900 DESCRIPTION

The W900 pumps are available in a single or multiple configuration of up to four sections. The basic pump is of a three piece modular design. Mounting flange and rear cover are of cast iron. The pump body is manufactured from high strength aluminium alloy.

For optimum strength, gears and shafts are precision machined in one piece. The 13-tooth gear geometry has been optimized for low noise level.

All shaft bearing surfaces are Teflon® coated and designed for long service life. They are continually cooled and lubricated by a controlled flow of fresh oil. This enables operation across a wide speed range at very high loads.

Multiple pumps in the W900 range are very compact. The drive shaft is capable of transmitting high torque even to the rear section. Each section has its own inlet and pressure ports. Single inlet features are optional for 2 and 3 section unit.

A wide range of mounting flanges and port sizes are available to meet international standards.

General data

Displacement *V*	5 - 31cc/rev
Speed *n*	500 - 4000 rpm
Pressure	
rated pressure p_I	up to 276 bar
intermittent pressure p_{II}	up to 300 bar
Operating temperatures *t*	up to 105° C
Average volumetric efficiency	97%

The maximum values for n, p_I and t for a given pump specification may be applied simultaneously.

Options

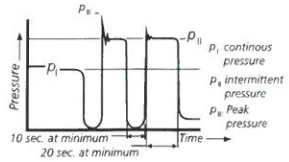
- SAE mounting flange, through bolt model.
- Rectangular flanges.
- Splined, tapered or straight shaft with key, tang shaft.
- Thread ports of flange ports.
- Clockwise or anti-clockwise rotation.
- Integrated valve features.
- Single inlet for multiple units.

PERFORMANCE DATA

Operating pressure range

Inlet port:	continuous, minimum	-0,20 bar
	intermittent, minimum	-0,35 bar
	maximum	+2,00 bar

Outlet port (See tables on pages 4-9)



Product has been tested to 1,000,000 cycles at p_I.
Pressure p_{II} is permitted at maxi. 20 sec loaded following 10 sec minimum unloaded.
Product has been tested to 500,000 cycles at p_{III}.

Above represents performance wich can be expected from units incorporating flange port styles.

Speed range

Minimum speed for all pump sizes is n=500 rpm at maximum pressure p_I.
Maximum speed for single pumps depends on the pump model in question and can be identified from tables on pages 4-9 for respective models.
Maximum speed for multiple pumps is the lowest one specified (See tables on pages 4-9) for any section of the configuration in question.
Noise performance data according to DIN 45 635.
Typical levels at 200 bar and 2300 rpm using mineral oil with viscosity of 40 mm²/s and at temperature of 50° C:

W9A1-08	W9A1-16	W9A1-23
60 dB(A)	65 dB(A)	68 dB(A)

Hydraulic fluids. The use of HL-or HLP-hydraulic oil according to DIN 51 524 is recommended.

The permissible viscosity for all W900 pumps ranges from 750 to 10 mm²/s. The recommended operating viscosity range is from 40 to 16 mm²/s.

The permissible cold start viscosity is 2000 mm²/s.

We recommend to contact Haldex before using fire resistant or bio-degradable fluids.

Temperature range

Amb. temperature	mini.-25° C
	maxi. +80° C
Fluid temperature	
continuous operation	maxi. +90° C
short term operation	maxi. +105° C

Please note

Viscosities -when operating at above temperature limits-have to remain within the range specified under "Hydraulic Fluids".

Fluid cleanliness

Fluid cleanliness according to ISO 4406/1986 code 18/14 or better is required in order to assure the pump's high level of efficiency in the long term.

Drive arrangement

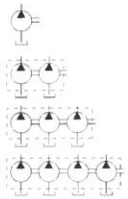
Flexible couplings are preferred for direct drives. Please contact Concentric for indirect drive requirements. Pumps with outboard side load bearing are available.

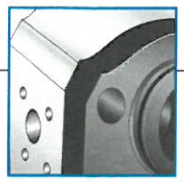
Mounting position

As required.

Symbols

Single pump
Double pump
Triple pump
Quadruple pump



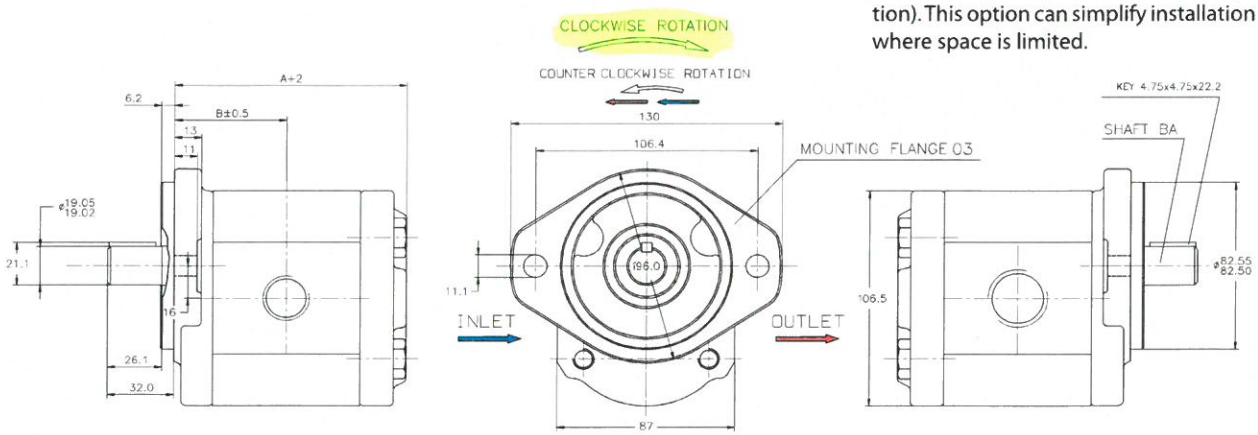


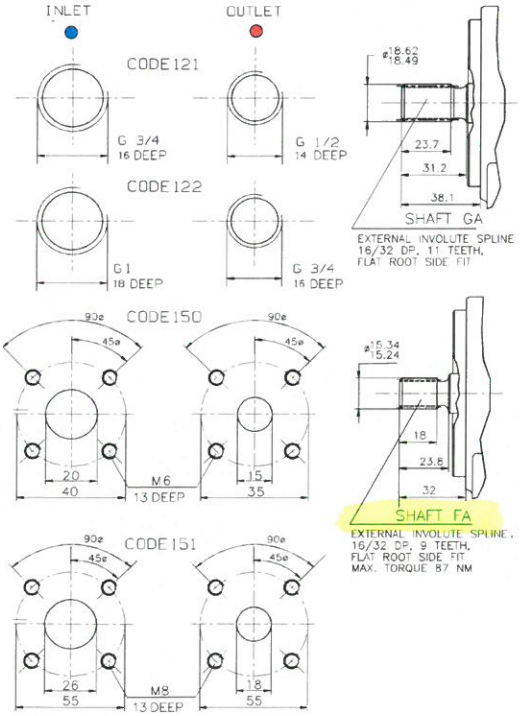
FLANGE CODE 03 (SAE A 2 BOLT)

All shaft bearings are continually cooled and lubricated by a controlled flow of fresh oil. This enables operation across a wide speed range at very high loads. The large sized slide bearings support the pump's long-life condition.

A wide range of mounting flanges and port sizes are available to meet European and international standards.

W900 pumps may also be supplied with threaded ports in the rear cover (Rear cover's shape is prepared for this option). This option can simplify installation where space is limited.





Model code example for a single pump

WP	09	A	1	B	050	R	03	BA	150	N
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① = Type **WP** - Pump

② = Series **09** - 900

③ = Design revision **A**

④ = # of sections **1** - Single
2 - Duplex
3 - Triplex
4 - Quadruple

⑤ = Seal material **B** - Buna

⑥ = Displacement per section
(See Code Displ. below)

⑦ = Rotation
R - Clockwise
L - Counter clockwise

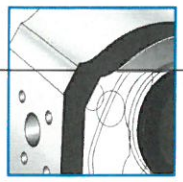
⑧ = Mounting flange
03 SAE A 2-Bolt

⑨ = Drive shaft
BA SAE A Key Ø 0,75"
GA SAE A Spline 11-t
FA SAE A Spline 9-t

⑩ = Portings
121 - G3/4" + G1/2" BSPP
122 - G1" + G3/4" BSPP
150 - 20 mm + 15 mm 4-b flange
151 - 26 mm + 18 mm 4-b flange

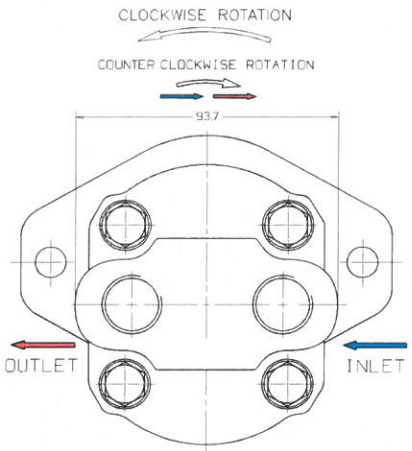
⑪ = Valve options **N** - None

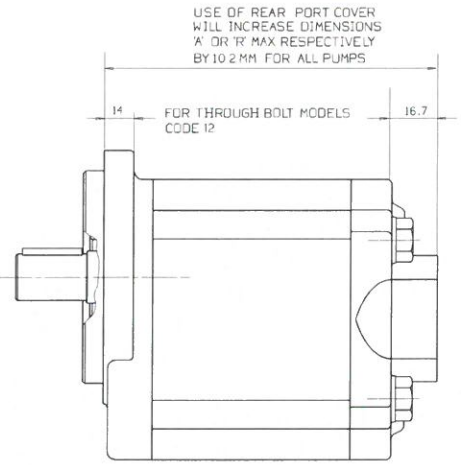
Size	Rated pressure (bar)		Maximum speed (rpm)		Dimensions		Weight (approx.)
	Shaft c. 'BA'/'GA'	Shaft c. 'FA'	Port. c. '121'/'150'	Port. c. '122'/'151'	A [mm]	B [mm]	[kg]
050 - 5,0cc	276	276	4000	-	90,1	43,3	3,7
060 - 6,0cc	276	276	4000	-	91,6	44,0	3,8
080 - 8,0cc	276	276	4000	-	94,6	45,5	3,9
110 - 11,0cc	276	276	3600	-	99,0	47,7	4,1
140 - 14,0cc	276	276	3300	-	103,5	50,0	4,2
160 - 16,0cc	276	276	3000	-	106,4	51,4	4,3
190 - 19,0cc	276	265	3000	-	110,9	53,7	4,4
230 - 23,0cc	221	221	2800	3500	116,8	56,6	4,6
270 - 27,0cc	185	185	-	3000	122,7	59,6	4,8
310 - 31,0cc	170	165	-	2500	128,7	62,6	5,0

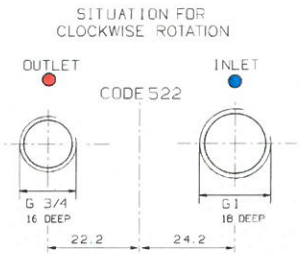


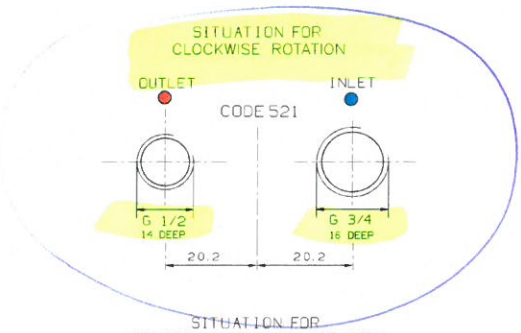
REAR PORT

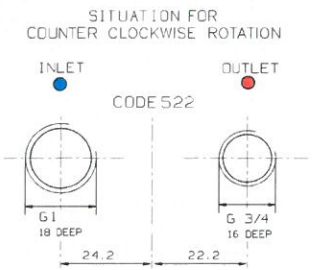
Rear port end cover can be combined with all flange and shaft options. All technical data from the preceding pages apply to this model.

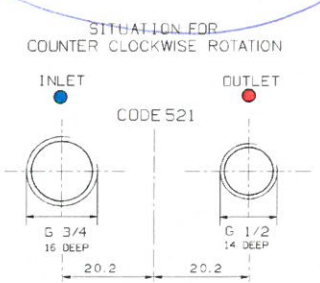












Size WP09AX	Rated pressure (bar)	Maximum speed (rpm) Port. '521'	 Port. '522'	Weight (approx.) [kg]
050 - 5,0cc		4000	-	3,7
060 - 6,0cc		4000	-	3,8
080 - 8,0cc		4000	-	3,9
110 - 11,0cc	can be taken from Tables on pages 4-8	3600	-	4,1
140 - 14,0cc		3300	-	4,2
160 - 16,0cc		3000	-	4,3
190 - 19,0cc		3000	-	4,4
230 - 23,0cc		2800	3500	4,6
270 - 27,0cc		-	3000	4,8
310 - 31,0cc		-	2500	5,0