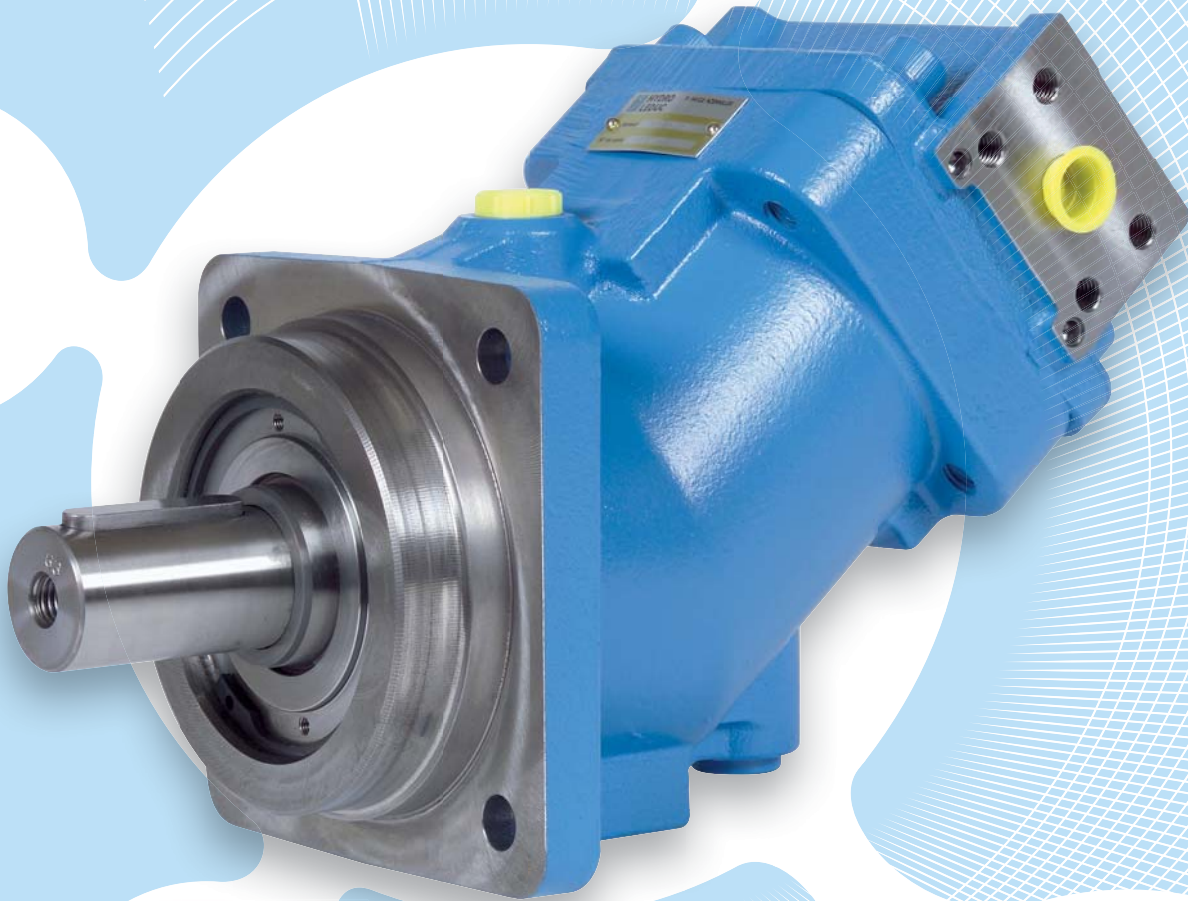


Bent axis hydraulic pumps

W
Series



 **HYDRO
LEDUC**
make it simple

Contents

■ Range and characteristics	1
■ Order code system	1
■ Dimensions	2
■ Performance	3
■ Installation and start-up recommendations	4
■ The complete LEDUC product range	5

W series pumps

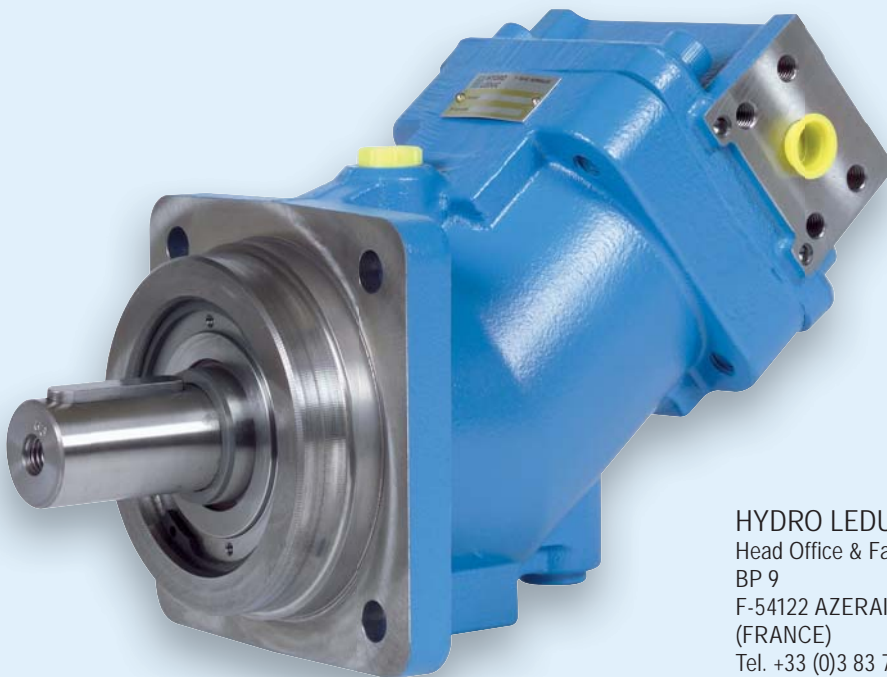
The new W series bent axis piston pumps from LEDUC are of the most modern design, and exist in displacements from 12 to 125cc.

These W pumps were developed to satisfy the needs of both the industrial hydraulics market : hydraulic power packs, units for machine tools etc.; and of the mobile market : construction equipment, drilling machines, mobile cranes etc.

The following properties allow such a wide range of applications:

- the W pumps are self-priming and self-suction, which allows installation above the tank, for example, and makes start-up easier;
- capability of conveying fluids of various different types, and with a wide range of viscosities;
- drive speeds are from 150 rpm to over 3,000 rpm (for W12 and W18 models), thus allowing a wide control of flow as a function of pump rotating speed;
- capability of operating at continuous output pressures up to 400 bar (450 bar peak), whilst maintaining high global efficiency and low noise levels;
- W pumps are to standard interfaces : shaft, flange and ports are to European (ISO) standards, or North American (SAE) on request.

W pumps are the latest addition to the vast experience and production at HYDRO LEDUC of hydraulic pumps, motors and accumulators, all offering high performance and long service life.



HYDRO LEDUC
Head Office & Factory
BP 9
F-54122 AZERAILLES
(FRANCE)
Tel. +33 (0)3 83 76 77 40
Fax +33 (0)3 83 75 21 58

Range and characteristics W series pumps

Bent axis piston pumps for mobile and industrial applications

Working pressure : 450 bar.
12 models from 12 to 125 cc/rev.
Splined or keyed shaft.

Minimum size envelope - High rotating speeds - High output pressure

Pump model	max continuous speed (rpm)	max pressure continuous/peak (bar)	torque at 350 bar (m.N)	max flow (l/min)	pumps mini/max temperature * (°C)	weight (kg)
W12	3150	400 / 450	67	37.80	-25 / 110	5.5
W18	3150	400 / 450	98	56.70	-25 / 110	5.5
W25	2500	400 / 450	140	62.50	-25 / 110	11.5
W32	2500	400 / 450	175	80.00	-25 / 110	11.5
W41	2250	400 / 450	227	92.25	-25 / 110	11.5
W45	2300	400 / 450	252	103.50	-25 / 110	18
W50	2300	400 / 450	280	115.00	-25 / 110	18
W63	2250	400 / 450	350	145.00	-25 / 110	18
W80	2300	400 / 450	445	184.00	-25 / 110	23
W90	2100	400 / 450	497	189.00	-25 / 110	23
W108	1900	400 / 450	595	205.00	-25 / 110	23
W125	1950	400 / 450	695	244.00	-25 / 110	30

* Available with special low temperature seals. For -40°C, please, contact us.

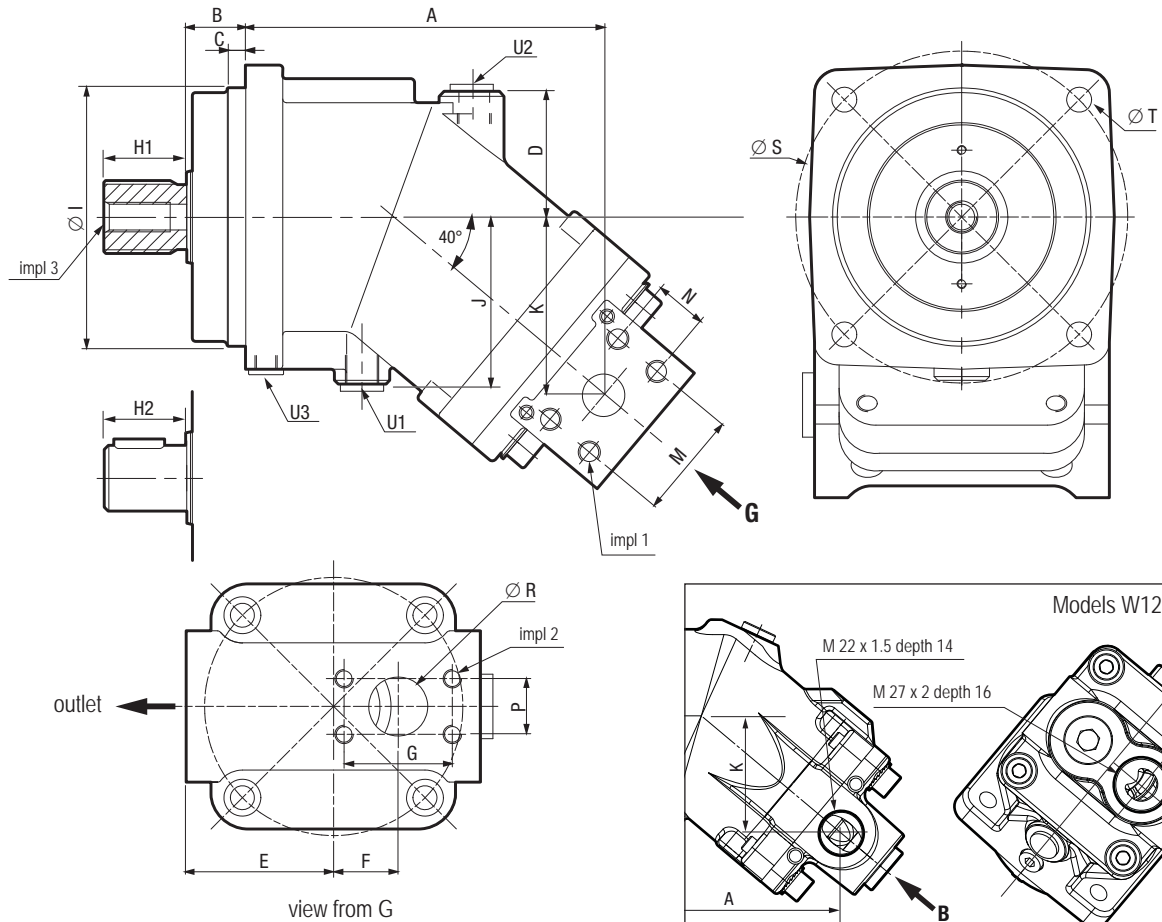
Order code system for W pump

W	...	A	..	R	M2
01	02	03	04	05	06	07	08

▶ To obtain the code for your pump, complete the different parameters 02, 04, 05, 07 and 08 in the table on the left, according to the options you require (see table below).

01	Pump				pump											W						
02	Displacement								12	18	25	32	41	45	50	63	80	90	108	125		
03	Mounting flange																				A	
04	Shaft end					DIN 5480 splined			W25	W25	W25	W30	W30	W30	W35	W35	W40	W40	W40	W45	W1	
						DIN 6885 keyed			Ø 25	Ø 25	Ø 25	Ø 30	Ø 30	Ø 30	Ø 35	Ø 35	Ø 40	Ø 40	Ø 40	Ø 45	D1	
05	Inlet and output ports								threaded						SAE flange ports					R		
06	Drain ports T1 and T2					metric															M2	
07	Direction of rotation					CW															SH	
						CCW																SIH
08	Seals					standard																
						high pressure (5 bar)																HP
						low temperature (- 40°C)																GF

Dimensions W series pumps

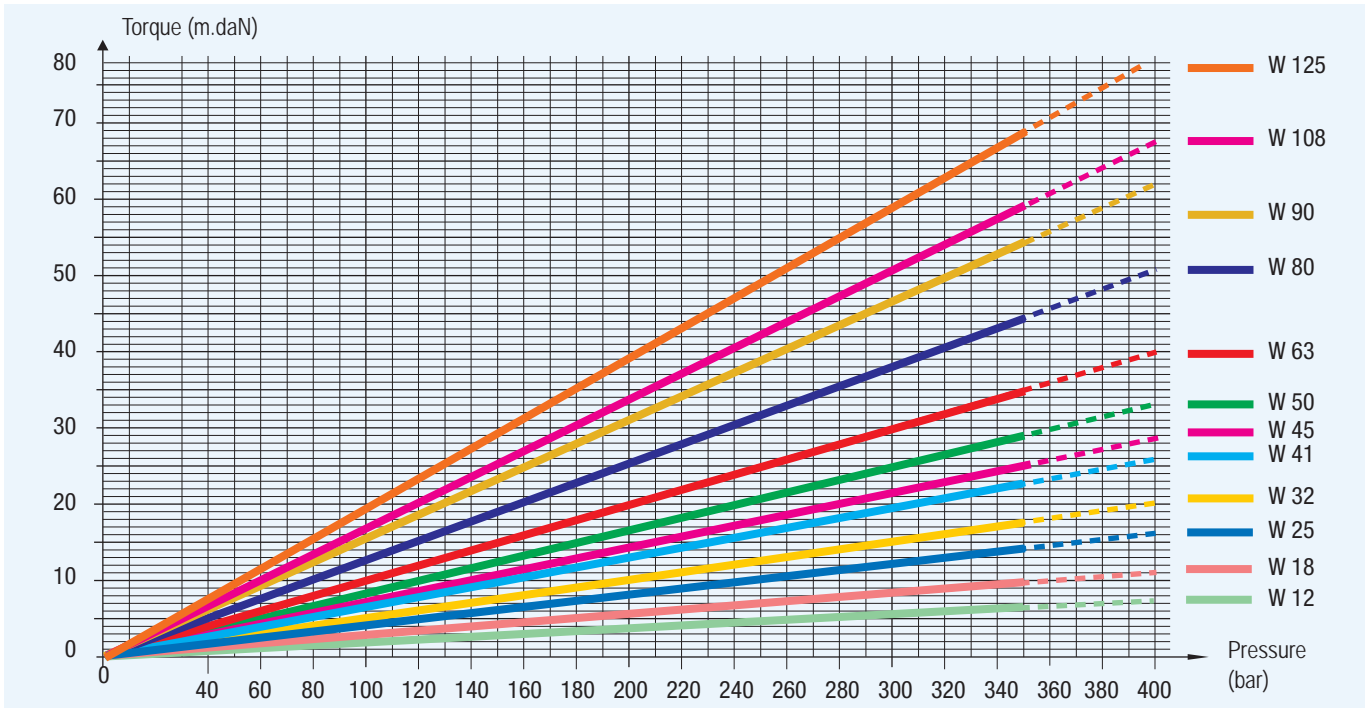


Pump model	A	B	C	D	E	F	G	I	J	K	M	N	P	R	S	T	U1	U2	U3
W12	123	20	6	39	44	17	-	80	51.5	58	-	-	-	-	100	9.0	M12x1.5	M12x1.5	M8x1
W18	123	20	6	39	44	17	-	80	51.5	58	-	-	-	-	100	9.0	M12x1.5	M12x1.5	M8x1
W25	144	25	8	56	60	22	47.6	100	69.0	66	40.5	18.2	22.2	19	125	11.0	M16x1.5	M16x1.5	M10x1
W32	150	25	8	56	60	22	47.6	100	69.0	71	40.5	18.2	22.2	19	125	11.0	M16x1.5	M16x1.5	M10x1
W41	150	25	8	56	60	22	47.6	100	69.0	71	40.5	18.2	22.2	19	125	11.0	M16x1.5	M16x1.5	M10x1
W45	168	32	10	59	68	30	52.5	125	84.0	85	50.8	23.8	26.2	25	160	13.5	M18x1.5	M18x1.5	M12x1.5
W50	168	32	10	59	68	30	52.4	125	84.0	85	50.8	23.8	26.2	25	160	13.5	M18x1.5	M18x1.5	M12x1.5
W63	168	32	10	59	68	30	52.4	125	84.0	85	50.8	23.8	26.2	25	160	13.5	M18x1.5	M18x1.5	M12x1.5
W80	194	32	10	68	80	35	58.7	140	90.5	97	57.2	27.8	30.2	32	180	13.5	M18x1.5	M18x1.5	M12x1.5
W90	194	32	10	68	80	35	58.7	140	90.5	97	57.2	27.8	30.2	32	180	13.5	M18x1.5	M18x1.5	M12x1.5
W108	194	32	10	68	80	35	58.7	140	90.5	97	57.2	27.8	30.2	32	180	13.5	M18x1.5	M18x1.5	M12x1.5
W125	207.6	40	10	60	89	35	69.9	160	107.5	100.8	66.7	31.8	35.7	38	200	17.5	M18x1.5	M18x1.5	M14x1.5

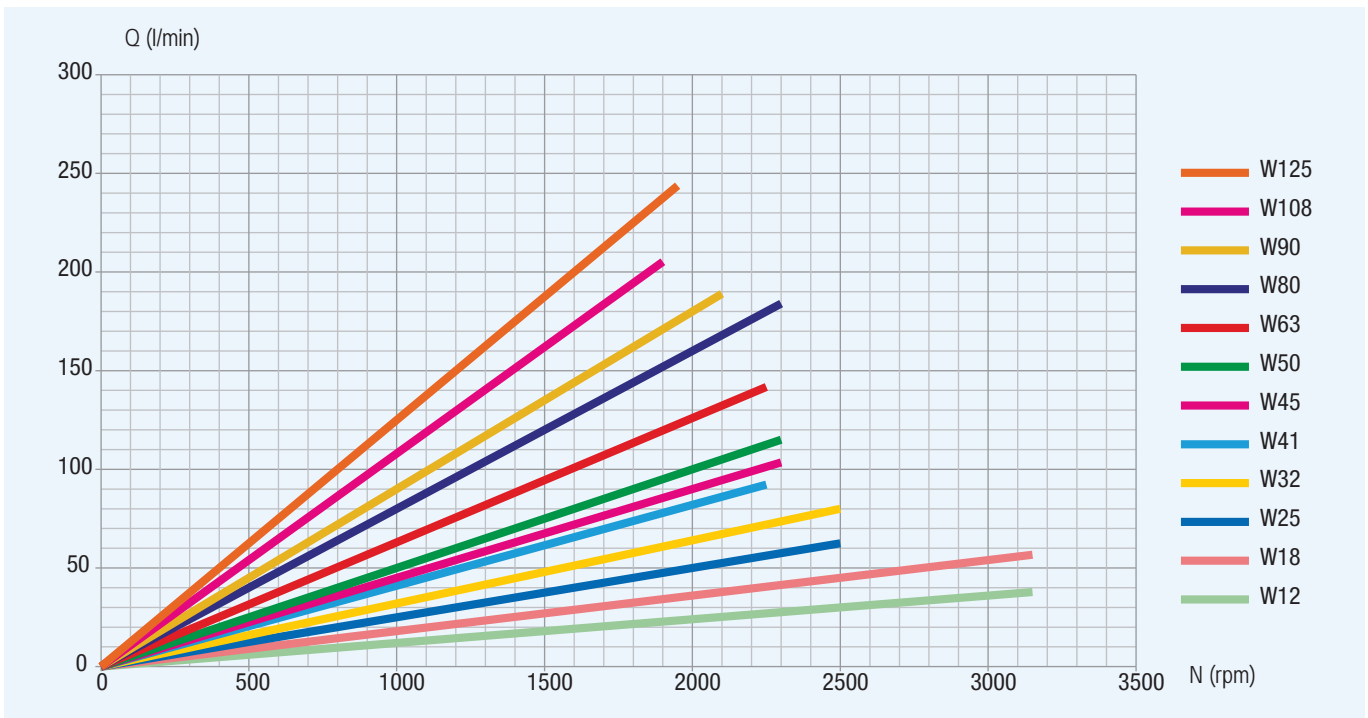
Pump model	splined shaft	H1	cylindrical keyed shaft	H2	outlet 6000 PSI	inlet 3000 PSI	Impl 1	Impl 2	Impl 3
W12	W25x1.25x30x18x9g	28	Ø25 (8 x 7 x 32)	40	M22x1.5	M27x2	-	-	M8
W18	W25x1.25x30x18x9g	28	Ø25 (8 x 7 x 32)	40	M22x1.5	M27x2	-	-	M8
W25	W25x1.25x30x18x9g	43	Ø25 (8 x 7 x 40)	50	SAE ½"	SAE ¾"	M8x1.25 prof 15	M10x1.5 prof 17	M8
W32	W30x2x30x14x9g	35	Ø30 (8 x 7 x 40)	50	SAE ½"	SAE ¾"	M8x1.25 prof 15	M10x1.5 prof 17	M10
W41	W30x2x30x14x9g	35	Ø30 (8 x 7 x 40)	50	SAE ½"	SAE ¾"	M8x1.25 prof 15	M10x1.5 prof 17	M10
W45	W30x2x30x14x9g	35	Ø30 (8 x 7 x 50)	60	SAE ¾"	SAE 1"	M10x1.5 prof 17	M10x1.5 prof 17	M12
W50	W35x2x30x16x9g	40	Ø35 (10 x 8 x 50)	60	SAE ¾"	SAE 1"	M10x1.5 prof 17	M10x1.5 prof 17	M12
W63	W35x2x30x16x9g	40	Ø35 (10 x 8 x 50)	60	SAE ¾"	SAE 1"	M10x1.5 prof 17	M10x1.5 prof 17	M12
W80	W40x2x30x18x9g	50	Ø40 (12 x 8 x 56)	70	SAE 1"	SAE 1¼"	M12x1.75 prof 20	M10x1.5 prof 17	M16
W90	W40x2x30x18x9g	50	Ø40 (12 x 8 x 56)	70	SAE 1"	SAE 1¼"	M12x1.75 prof 20	M10x1.5 prof 17	M16
W108	W40x2x30x18x9g	50	Ø40 (12 x 8 x 56)	70	SAE 1"	SAE 1¼"	M12x1.75 prof 20	M10x1.5 prof 17	M16
W125	W45x2x30x21x9g	50	Ø45 (14 x 9 x 63)	80	SAE 1"	SAE 1½"	M12x1.75 prof 20	M12x1.75 prof 20	M16

Performance W series pumps

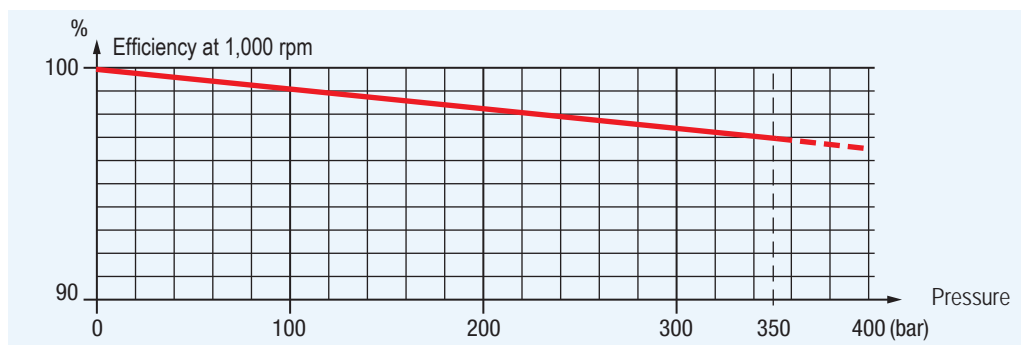
Torque absorbed as function of pump outlet pressure



Flow



Volumetric efficiency



These graphs are the results of testwork done in the HL R&D laboratory, on a specific test bench, with an ISO 46 fluid at 25°C (100 cSt), the pump is supplied through a 2" diameter, 4 meters long hosing, and tank situated slightly above pump.

Installation and start-up W series pumps

Hydraulic fluid

LEDUC pumps are designed to be used with mineral-based hydraulic fluids. The use of other fluids is possible but may require the pump to be adapted, please consult our Technical Department.

Recommended viscosity:

- between 20 and 40 cSt : within this range the pumps will perform according to the characteristics given;
- minimum viscosity : 5 cSt;
- maximum viscosity : 400 cSt.

Filtration of hydraulic fluid

The service life of the pump depends on the quality and cleanliness of the fluid used. Recommended filtration : 10 μ absolute.

We recommend minimum cleanliness as follows:

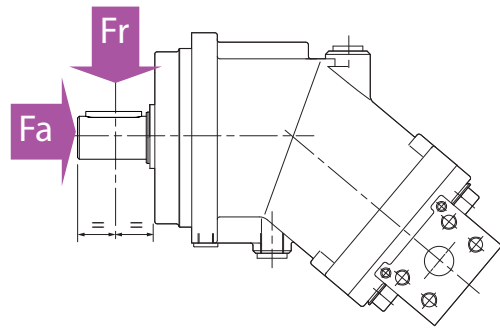
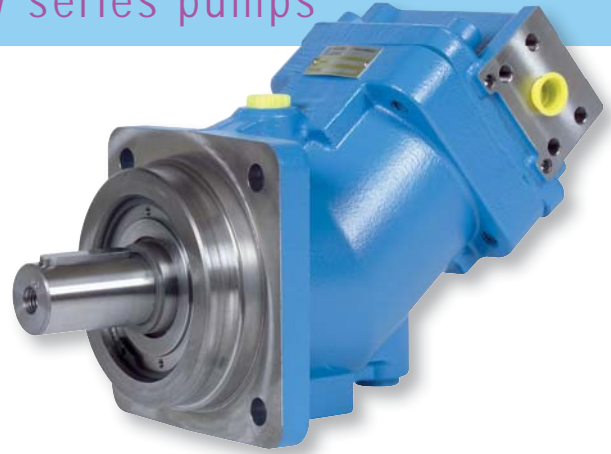
- class 9 according to NAS 1638;
- class 6 according to SAE;
- class 18/15 according to ISO standard.

Acceptable forces on W pump shaft

It is preferable to avoid having any radial or axial force on the W pump shaft. If it is not possible, check in table below for maximum acceptable force.

Fr : radial force at mid length of shaft,

Fa : axial force which tends to push the pump shaft inwards.



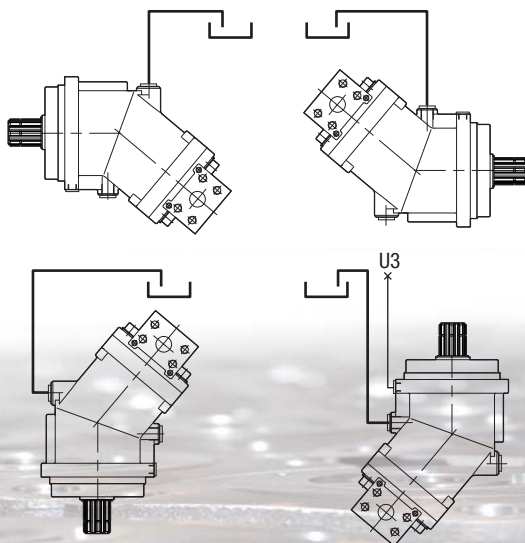
displacement	cc	12	18	25	32	41	45	50	63	80	90	108	125
Fr	N	2800	4000	6000	6500	7000	6500	7500	9000	10500	6700	7000	14500
Fa	N/bar	15	20	27	30	40	40	40	50	60	67	80	86

For other forces, please contact us.

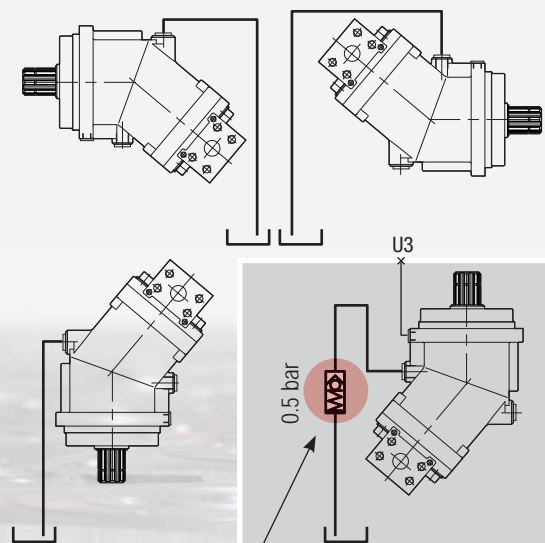
Mounting position for W pumps

W pumps can be used in any position, but must have a drain, and pressure in the drain line must not exceed 2 bar.

The drain must be connected to the tank in the most direct way possible.



In installations where the position of the pump is above the tank, ensure the drain line is always underneath the fluid level tank. If this is not the case, it is necessary to add a check valve on the drain line as shown in the figure below.



0.5 bar

ensure a ΔP of 0.3 to 0.5 bar

Assembly with check valve

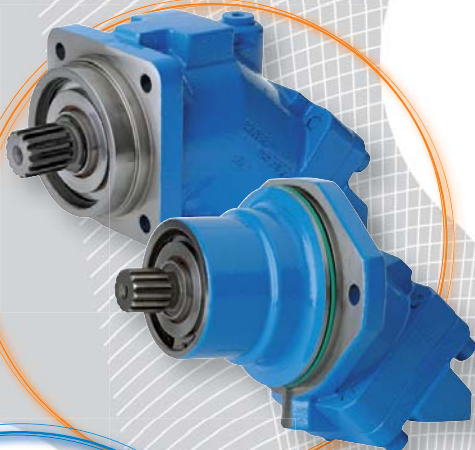
Instructions for use

Each pump is supplied with an instruction leaflet, also available via e-mail on request mail@hydroleduc.com.

The complete range

hydraulic motors

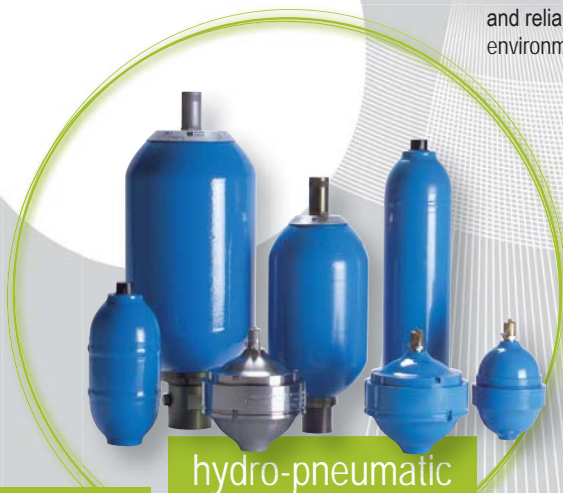
Fixed displacement bent-axis piston motors. Models from 5 to 180 cc. Available both in ISO and SAE versions.



mobile and industrial pumps

Fixed displacement pumps, the W series, and variable displacement pumps, the DELTA series. High pressure capabilities within minimal size.

W series: flanges to ISO 3019/2, shafts to DIN 5480.
DELTA series: SAE shafts and flanges.



hydro-pneumatic

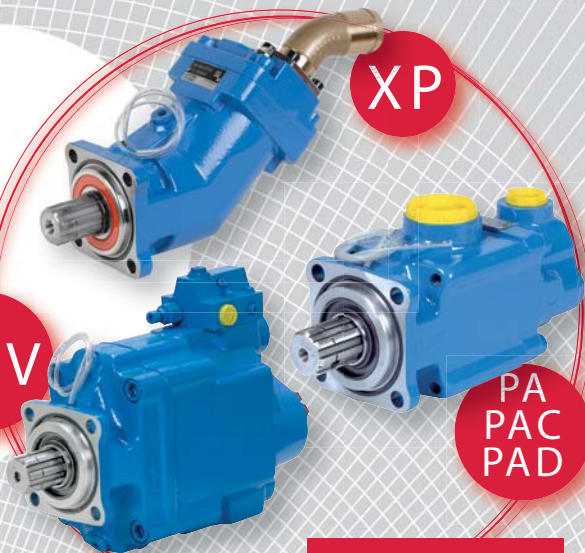
accumulators

Bladder, diaphragm accumulators.
Spherical and cylindrical accumulators.
Volume capacities from 20 cc to 50 liters.
Pressures up to 500 bar.
Accessories for use with hydraulic accumulators.

TXV

XP

PA PAC PAD



piston pumps for trucks

HYDRO LEDUC offers 3 types of piston pumps perfectly suited to all truck and PTO-mount applications. Fixed and variable displacement from 12 to 150 cc.

micro-hydraulics

This is a field of exceptional HYDRO LEDUC know-how:

- axial and radial piston pumps, of fixed and variable displacement,
- axial piston micro-hydraulic motors,
- micro-hydraulic units incorporating pump, electric motors, valving, controls, etc.

To users of hydraulic components which have to be housed in extremely small spaces, HYDRO LEDUC offers complete, original and reliable solutions for even the most difficult environments.



we are passionate
about hydraulics...

 **HYDRO
LEDUC**

A dedicated R&D team means HYDRO LEDUC is able to adapt or create products to meet specific customer requirements. Working in close cooperation with the decision-making teams of its customers, HYDRO LEDUC optimizes proposals based on the specifications submitted.

a passion for hydraulics

HYDRO LEDUC

Head office and Factory

BP 9 - F-54122 AZERAILLES (FRANCE)
Tél. +33 (0)3 83 76 77 40 - Fax +33 (0)3 83 75 21 58

HYDRO LEDUC GmbH

Haselwander Str. 5

D-77746 SCHUTTERWALD (GERMANY)
Tél. +49 (0) 781-9482590 - Fax +49 (0) 781-9482592

HYDRO LEDUC AB

Göteborgsvägen 74

SE-433 02 Sävedalen (SWEDEN)
Tél. (+46) 070 26 17 770

HYDRO LEDUC N.A., Inc.

19416 Park Row - Suite 170

HOUSTON, TEXAS 77084 (USA)
Tél. +1 281 679 9654 - Fax +1 832 321 3553



Complete catalogues available at:
www.hydroleduc.com



HYDRO LEDUC

SAS with capital of 4 065 000 euros

Siret 319 027 421 00019

RC Nancy B 319 027 421

mail@hydroleduc.com

 **HYDRO
LEDUC**
make it simple