

# HAWK Pump Catalogue

## Standard Pumps

### 2015



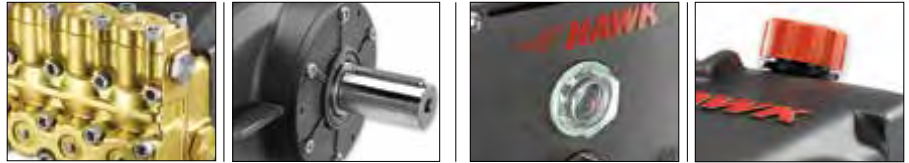
#### Guide to pump selection

BAR	NHD 120	NHD 150	NHD 200	NMT	NPM	NLTI	XLTI	XXT	PXI	MXT	MPX 350	MPX 500	HFR	HHP	NHD-HY	NHD 120-C	NHD 150-C	NHD 200-C	NHD-HY	NHD-G	NHD-G1	NMP-GR	FOG	NMT-ES	NMT-CW	NMT-HT 85°	XLTI-HT 85°	XXT-HT 85°	MXT-HT 85°	XLTI-Atex	BAR
500									1450 RPM			1450 RPM		1450 1000 RPM																	500
350											1450 RPM																				350
300							1450 RPM																							1450 RPM	300
280													1450 RPM																		280
250					1450 RPM	1450 RPM																3400 RPM									250
200			1450 RPM	1450 RPM				1450 RPM							1450 RPM			1450 RPM	1450 RPM	3400 RPM	3400 RPM			1450 RPM	1450 RPM		1450 RPM				200
170																															170
150		1450 RPM								1450 RPM							1450 RPM									1450 RPM		1450 RPM	1450 RPM		150
140																															140
120	1450 RPM															1450 RPM															120
100																							1450 RPM								100
L/ min.	Min. 4 Max. 12	Min. 8,5 Max. 15	Min. 8,5 Max. 15	Min. 12,5 Max. 21	Min. 15 Max. 18	Min. 25 Max. 30	Min. 15 Max. 54	Min. 42,6 Max. 70,0	Min. 11,3 Max. 21,7	Min. 70 Max. 100	Min. 38 Max. 45	Min. 25 Max. 36	Min. 40 Max. 120	Min. 25 Max. 50	Min. 15 Max. 15	Min. 8,5 Max. 12	Min. 8,5 Max. 15	Min. 18,5 Max. 15	Min. 15 Max. 15	Min. 9,5 Max. 11,4	Min. 11,4 Max. 14,4	Min. 11,5 Max. 17	Min. 1 Max. 8	Min. 12,5 Max. 21	Min. 12,5 Max. 21	Min. 12,5 Max. 21	Min. 15 Max. 42	Min. 55 Max. 70	Min. 15 Max. 30	Min. 15 Max. 30	L/ min.

# Standard Pumps - Technical drawings

**HFR** Series / Serie

HFR pumps are top of the range. They can handle very high levels of pressure and water temperatures of 40°C (104 F). They are available in two versions: one can reach up to 150 bar, the other 280 bar. Their very powerful jet of water makes them ideal for use in maintenance systems in boat yards and on industrial work sites, for removing old deposits and mortar. They are also used for cleaning outdoor walls and roads, to take old paint off walls and large surfaces. A more recent application are hydro-sandblasting systems.



Part. No. Codice	Flow Rate / Portata		Max Pressure Pressione massima		RPM Giri /Minuto*	Max Power / Potenza Massima		Power take-off Prova di forza
	l/min 50 Hz	US GPM 50 Hz	Bar	Psi		50 Hz	50 Hz	
HFR60SL**	60	15.7	280	4100	1000	43.0	31.6	◁40
HFR60SR**	60	15.7	280	4100		43.0	31.6	40▷
HFR80SL	80	21.1	150	2175		30.5	22.4	◁40
HFR80SR	80	21.1	150	2175		30.5	22.4	40▷
HFR105SL	105	27.7	150	2175		40.3	29.7	◁40
HFR105SR	105	27.7	150	2175		40.3	29.7	40▷
HFR120SL	120	31.7	150	2175		46.1	33.9	◁40
HFR120SR	120	31.7	150	2175		46.1	33.9	40▷
HFR40FL**	40	10.5	280	4100	1450	28.7	21.1	◁40
HFR40FR**	40	10.5	280	4100		28.7	21.1	40▷
HFR60FL**	60	15.7	280	4100		43.0	31.6	◁40
HFR60FR**	60	15.7	280	4100		43.0	31.6	40▷
HFR80FL**	80	20.9	280	4100		57.3	42.1	◁40
HFR80FR**	80	20.9	280	4100		57.3	42.1	40▷

## P.T.O. Reference guide / Legenda prese di forza

Single P.T.O. Ø 40 mm Left  
Singola presa di forza Ø 40 mm Sinistra

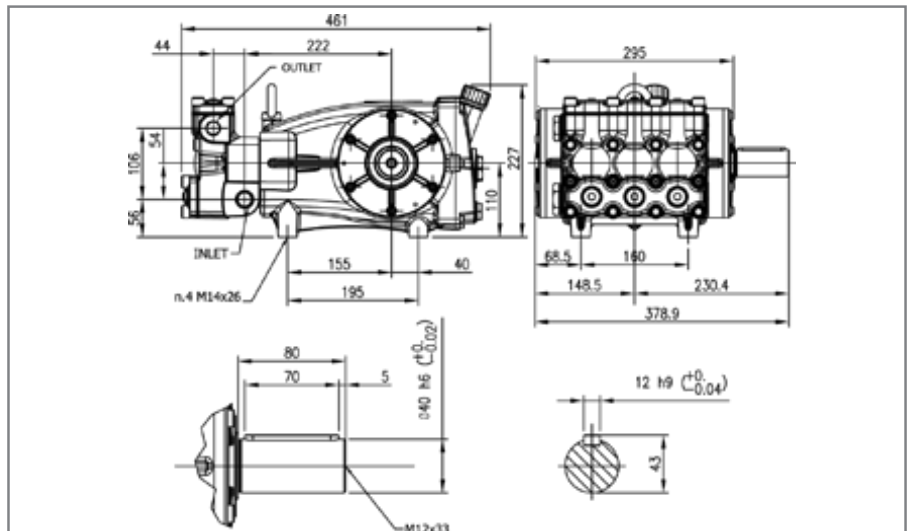
Single P.T.O. Ø 40 mm Right  
Singola presa di forza Ø 40 mm Destra

\*For different RPM please contact our Sales Department  
\*Per differenti RPM contattare l'ufficio vendite

\*\*Available also in High Temperature version  
\*\*Disponibile anche in versione alta temperatura

The flow rate values may vary by ± 5% compared to the production label values.  
I valori di portata possono discostarsi del ± 5% rispetto i valori di targa.

Weight / Peso	Kg	48
Oil capacity / Capacità olio	lt.	3.5
Inlet / Entrata	G	1"
Outlet / Uscita	G	3/4"



# Standard Pumps - Technical drawings

**HHP** Series / Serie

HHP pumps operate at a maximum pressure of 350 to 500 bar and with a water temperature of 40°C (104F). The HHP series is an ideal component fitted onto industrial cleaning machinery: for example, for taking old mortar off walls or dscaling the hulls of pleasure craft. Cleaning industrial and agricultural machinery, road cleaning, hydro-sandblasting and many other industrial applications. These pumps were designed to pump clean water, with or without the addition of detergents or sanitisation products.



“Ecobrass” pump head : environment-friendly brass alloy with very high mechanical properties equivalent to Stainless Steel 316.

Testata pompa in “Ecobrass”: lega di ottone ecologica con elevate proprietà meccaniche equivalenti ad Acciaio Inox 316

Part. No. Codice	Flow Rate / Portata		Max Pressure Pressione massima		RPM Giri /Minuto*	Max Power / Potenza Massima		Power take-off Prova di forza
	l/min 50 Hz	US GPM 50 Hz	Bar	Psi		HP 50 Hz	Kw 50 Hz	
HHP25SL	25	6.6	500	7250	1000	32.6	24	◁40
HHP25SR	25	6.6	500	7250		32.6	24	40▷
HHP30SL	30	7.9	500	7250		37	27.2	◁40
HHP30SR	30	7.9	500	7250		37	27.2	40▷
HHP2750L	27	7.1	500	7250	1450	35.5	26.1	◁40
HHP2750R	27	7.1	500	7250		35.5	26.1	40▷
HHP3650L	36	9.5	500	7250		46.9	34.5	◁40
HHP3650R	36	9.5	500	7250		46.9	34.5	40▷
HHP4150L	41	10.8	500	7250		53.7	39.5	◁40
HHP4150R	41	10.8	500	7250		53.7	39.5	40▷
HHP5040L	50	13.3	400	5800	1740	51.5	37.9	◁40
HHP5040R	50	13.3	400	5800		51.5	37.9	40▷

## P.T.O. Reference guide / Legenda prese di forza

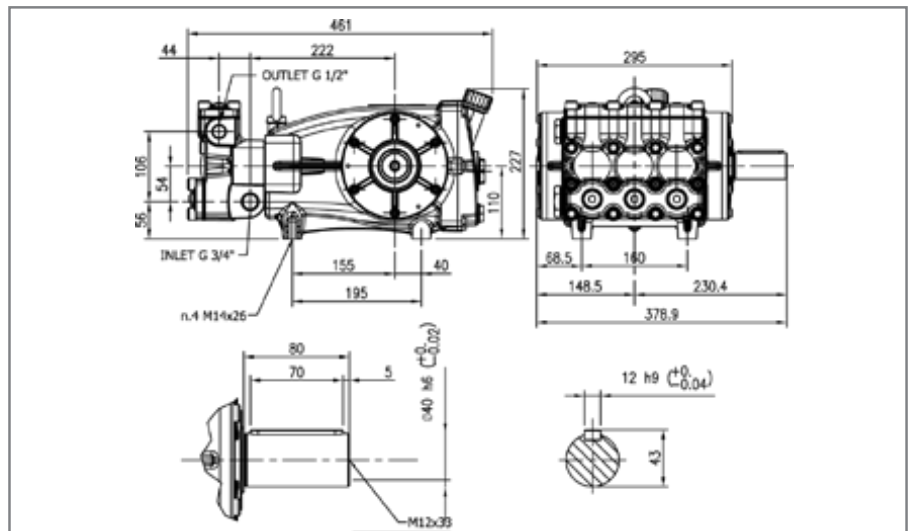
Single P.T.O. Ø 40 mm Left  
Singola presa di forza Ø 40 mm Sinistra ◁40

Single P.T.O. Ø 40 mm Right  
Singola presa di forza Ø 40 mm Destra 40▷

\*For different RPM please contact our Sales Department  
\*Per differenti RPM contattare l'ufficio vendite

The flow rate values may vary by ± 5% compared to the production label values.  
I valori di portata possono discostarsi del ± 5% rispetto i valori di targa.

Weight / Peso	<b>Kg</b>	51
Oil capacity / Capacità olio	<b>lt.</b>	3.5
Inlet / Entrata	<b>G</b>	3/4"
Outlet / Uscita	<b>G</b>	1/2"



## CHOOSING THE PUMP

Hawk, high-pressure piston pumps are positive displacement pumps.

The main parameters that determine your choice of Hawk pump are volume, pressure, rotation speed and power input. The flow-rate is given in litres per minute and is directly proportional to the rotation speed. The speed of rotation is given as revolutions per minute.

The pressure is given in bars and is the maximum pressure that the pump can reach.

The power input is shown in kW and is the input required for the maximum flow-rate and pressure indicated. When coupled with an electric motor, the power of the motor should be greater than that shown in the catalogue. When coupled with a combustion engine, the power of the engine should be at least 30% more than that shown in the catalogue. The power consumed by the pump in kW is the product of:  $\text{Power} = \text{Volume (l/min)} \times \text{Pressure (bar)} / 520$

## OPERATING AND INSTALLATION INSTRUCTIONS

Hawk pumps are designed and built for the pumping of clean fresh water or water with a low percentage of commonly used detergents, up to a temperature of 65°C. Hawk pumps designed with an AISI 316 stainless steel manifold housing should be used for applications with temperatures up to 85°C, for saltwater applications, for reverse osmosis, and for use in the food, chemical and pharmaceutical industries. Hawk pumps were not designed for pumping potentially hazardous liquids (explosive, toxic and flammable liquids). Contact our technical staff if the application involves the use of harsh chemicals and in case of doubt with regard to any of the points below. To safeguard proper pump operation, the pump should preferably be fed (maximum pressure 8 bar), otherwise it should be located under the water head or at the same level as the tank. Poor supply can cause serious damage to the pump, such as priming problems, vibration, noise and short seal life. Hawk pumps are delivered with their first oil fill and are fitted with a sealed cap to prevent oil spilling during transport. Before starting to use the pump for the first time, do not forget to replace the sealed cap with the cap with the dipstick and bleed.

Warning: Failure to install the pumping system correctly can result in injury or damage to property: it is important to follow all the points below.

- 1) The pump should not be used at higher pressures or speeds of rotation than those shown on the product's specifications plate.
- 2) The pump should be installed horizontally with respect to the base to facilitate optimum lubrication.
- 3) The pump's suction pipe must be proportional to the volume and its diameter must not be less than the suction mouth. It is important that there be as few bottlenecks on this pipe as possible (elbows, T couplings, reductions, etc ...). Each junction on the suction pipe must be sealed properly with Teflon tape or a similar product to avoid leaks or air intake (cavitation). Cavitation is the formation of bubbles of steam in the liquid: their implosion generates abnormal stress which is very damaging for all pump parts. To safeguard optimum pump life, avoid the circulation of liquid containing sand or other solid particles as this affects the efficiency of valves, the plungers and seals. This can be prevented by fitting an oversized filter on the suction pipe with respect to the pump volume. The filter should be cleaned regularly.
- 4) The delivery pipe must be able to support the operating pressure of the pump. Excessively narrow passages can result in lance pressure loss.

5) To prevent injury and damage to the pump, it is vital to fit a pressure control valve and a safety valve to prevent the pressure accidentally exceeding its operating level. Contact our technical staff before fitting these valves. To keep the system pressure under control, a pressure gauge should be fitted on the delivery line with an appropriate bottom scale.

6) Our pumps can be installed in various ways: with pulley drive, direct drive or with flange coupling. An adequate flexible coupling should be used for direct coupling with the electric motor. Make sure the pulleys are aligned if pulley driven; adjust the belt tension and provide adequate safety protection.

Excessive belt tension can cause the oil to overheat and reduce bearing life.

7) Before starting up the pump, make sure the oil is up to level. We recommend the first oil change within the first 50 hours of operation. Subsequent oil changes should take place every 500 hours or more often in case of heavy use. The type of oil used for our pumps is SAE 20/40W.

8) After starting up the pump, aid priming by keeping the delivery line open (lance). Do not let the pump run dry: this can result in rapid seal wear and invalidates the warranty.

9) When using chemicals, run the pump with clean water for several minutes after use. Do not use the pump at low temperatures. To prevent freezing, run the pump dry for about 20 seconds to drain the pipes.

Warning: failure to comply with these operating conditions invalidates the warranty.

## LIMITED WARRANTY

LEUCO S.p.A. guarantees HAWK products have no defect in their construction and materials for a period of (1) year from the time they left the factory. This guarantee is at the discretion of LEUCO S.p.A. and is limited to the repair and replacement of parts or products that it deems defective at the time of delivery. All the products covered by this limited guarantee must be returned freight paid for inspection, repair or replacement by the manufacturer.

This limited warranty is the only form of guarantee and replaces any other form of explicit or implicit warranty, including guarantees of fitness for sale or any particular purpose. The manufacturer refuses any such liability with this statement. Faulty products will only be repaired or replaced according to these terms; LEUCO S.p.A. is not liable for any further loss, damage or expense including accidental or indirect damages caused directly or indirectly from the sale or use of these products. The unauthorised use of spare parts that were not manufactured by LEUCO S.p.A. automatically invalidates this guarantee, which is subject to the instructions for installation and operation here. There are no further guarantees other than the guarantee described above.