

WATER



PUMPS



WATER PUMPS

THE ADVANTAGE OF DOA HYDRAULIC PUMP



GREAT POWER WEIGHT AND DIMENSION RATIO



COMPACT AND EASY TO CARRY



OEM AND SPECIAL APPLICATIONS



CAN RUN DRY WITHOUT DAMAGE



CAN PUMP HIGH TEMPERATURE LIQUIDS



NO ELECTRICITY



MINIMAL MAINTENANCE NEEDED



**CAN PUMP AGGRESSIVE FLAMMABLE
AND PETROLUUM BASED LIQUIDS**

WATER PUMPS

SP 20

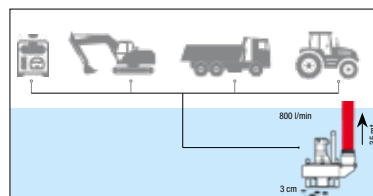
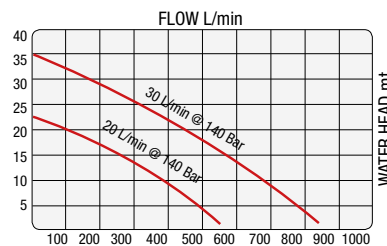
Hydraulic Trash Pump

mouth 2"

- Extremely robust and reliable
- Simplified construction that ensures reliability, long lasting life and minimal maintenance requirements
- Can run dry without damage
- The maximum circumference of only 22 cm allows easy insertion even in narrow manholes and very small excavation sites
- It can be operated by small power packs or by the hydraulic circuit of mini excavators, tractors, etc
- Hydraulic motor equipped with a one-way valve that prevents accidental oil leaks if connected in the wrong hydraulic port
- Available with "Viton" seals for pumping high temperature fluids



Also available in configuration



TECHNICAL CHARACTERISTICS	SP 20
Discharge mouth	2" bsp female
Dimension LxH (mm)	220x300
Weight	8 KG
Flow	800 l/min
Water head	35 mt max
Pumpable solids	3 cm
Impeller material	chromium cast iron
Pump body material	stainless steel
Impeller type	open centrifugal
Motor type	gears group 2
Oil flow	15 - 30 l/min
Ideal flow	20 l/min
Oil pressure	100 - 210 bar
Backpressure	17 bar max

SP20 is a compact and powerful immersion pump designed for handling trash, muddy waters and for heavy fluids in general. Compact and light provides a flow rate up to 800 L/min and maximum water head of 35 meters. Can pump solid particles with dimensions up to 3 cm. It can run dry without damage. Compact and safe, the **SP20** is ideal for emergency services, for the maintenance of urban gas and water networks, the field operators can work with their feet immersed in the same water in which the pump is operating, it is also available in the **ATEX variant for pumping works in explosive environments**.

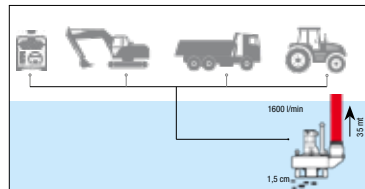
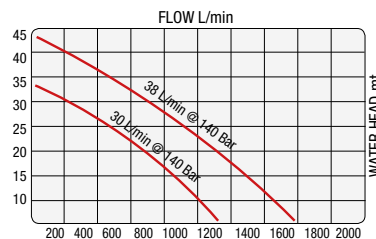


WATER PUMPS

WP 25

Hydraulic Pumps For Clear And Moderatly Muddy Waters

mouth 3"



WP 25 is a professional hydraulic submersible pump designed for pumping clear water, excavation water or moderately muddy fluids, it can pump solid particles in suspension with dimensions up to 2 cm. High performances: 1.600 L/min flow rate and water head up to 45 meters. The hydraulic pumping operation guaranteed maximum safety for the field operators that can work with their feet immersed in the same water in which the pump is operating. **WP 25** is ideal for maintenance work on urban networks, pumping large volumes of water, flooding, civil protection and forest fire protection services and road works in general.



- *Extremely robust and reliable, minimal maintenance requirements, can run dry without damaging it*
- *The pump housing can be open in few minutes without tools for inspection of the impeller and the pumping chamber*
- *Can be operated by small power packs or by the hydraulic circuit of mini excavators, vans, tractors, work vehicles, etc*
- *The perforated round base allows pumping in just few cm deep of water, ideal in basements and tunnel floors*
- *Hydraulic motor equipped with a one-way valve that prevents accidental oil leaks in the wrong port*
- *Available with "Viton" seals for pumping of high temperature fluids*

TECHNICAL CHARACTERISTICS	WP 25
Discharge mouth	3" bsp female
Dimension LxH (mm)	300x300
Weight	13 KG
Flow	1600 l/min
Water head	45 mt max
Pumpable solids	1,5 cm
Impeller type	open centrifugal
Pump body material	hard aluminum alloy
Impeller material	chromium cast iron
Motor type	gears group 2
Oil flow	15 - 38 l/min
Ideal flow	30 l/min
Oil pressure	100 - 210 bar
Backpressure	17 bar max

WATER PUMPS

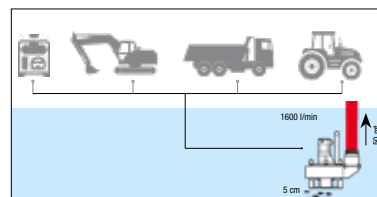
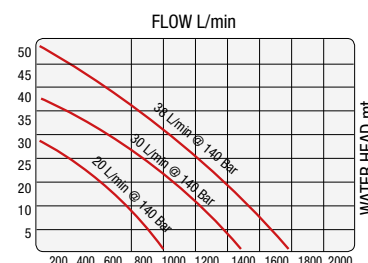
SP 35

Hydraulic Trash Pump

- *Extremely robust and reliable, minimum maintenance required, can run dry without damage indefinitely*
- *The pump housing can be open in few minutes without tools, for inspection of the impeller and the pumping chamber*
- *Can be operated by small power packs or by the hydraulic circuit of mini excavators, vans, tractors, work vehicles etc.*
- *Hydraulic motor equipped with a one-way valve that prevents accidental oil leaks if connected in the wrong hydraulic port*
- *Available with "Viton" hydraulic motor seals for pumping high-temperature fluids*
- *The single-channel impeller (without vanes) has a minimal mechanical effect on the fluid this limits the formation of emulsions and foams*
- *Important feature in pumping spills of oils and oil products from "skimmers" into the sea and lakes*



Also available in configuration



TECHNICAL CHARACTERISTICS	SP 35
Discharge mouth	3" bsp female
Dimension LxH (mm)	350x370
Weight	17 KG
Flow	1600 l/min
Water head	50 mt max
Pumpable solids	5 cm
Impeller type	mono canal closed
Impeller material	stainless steel
Pump body material	stainless steel
Motor type	gears group 2
Oil flow	15 - 38 l/min
Ideal flow	30 l/min
Oil pressure	100 - 210 bar
Back pressure	17 bar max

SP35 is a 3 hydraulic waste pump for clear and heavily loaded liquids, impeller and shell are made in stainless steel. The pump produce high performance thanks to hydraulic power and the exclusive closed single channel impeller which allows very high efficiency with flow rates up to 1600 L / min, head up to 50 meters and the possibility of pumping dense or very muddy water with suspended solid bodies up to 50 mm in diameter. **SP35** is ideal for maintenance work urban networks, which pump very dense liquids, against floods in civil protection services and road works in general.



WATER PUMPS

SP 45

Hydraulic Trash Pump

mouth 4"



Also available
in configuration



- *Extremely robust and reliable, minimum maintenance required, can run dry without damage indefinitely*

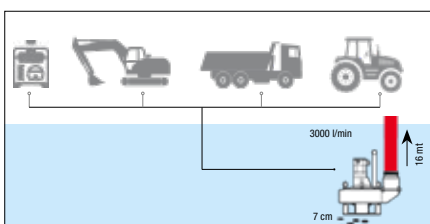
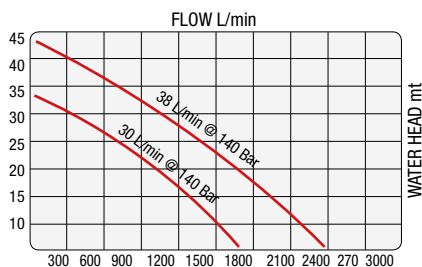
- *The pump housing can be open in few minutes without tools for inspection of the impeller and the pumping chamber*

- *Can be operated by small power pack or by the hydraulic circuit mini excavators, vans, tractors, work vehicles etc.*

- *Hydraulic motor equipped with a one-way valve that prevents accidental oil leaks if connected in the wrong hydraulic port*

- *Available with "Viton" seals for pumping high-temperature fluids*

- *With the accessory "Dredging Kit" mounted on the volute base, act as a floor vacuum for directly suction of sand, light mud and solid melted suspended material*



WATER PUMPS

SP 45

Hydraulic Trash Pump

mouth 4"

SP45 is a professional 4" trash pump designed for pumping trash or very loaded fluids with a concentration of sludge in the liquid up to 20%, it can pump suspended solid bodies with dimensions of 70 mm. The performances are very high: flow rate up to 3000 L/min and a water head up to 16 meters. The pump body is constructed in stainless steel with polyurethane polyether shielding plates, materials that ensure unbeatable qualities of sturdiness, resistance to abrasion to impact and rust. Hydraulic function is an implicit guarantee of safety due to the impossibility of causing electric shock injuries. It can run dry without damage indefinitely. It is ideal for the pumping of large volumes of clear and dirty water, for the maintenance of underground gas and water networks, against flooding and natural disasters in the disposal of biological pits and manhole dewatering.



TECHNICAL CHARACTERISTICS	SP 45
Discharge mouth	4" bsp female
Dimension LxH (mm)	400x500
Weight	28 KG
Flow	3000 l/min
Water head	16 mt max
Pumpable solids	7 cm
Impeller type	open centrifugal
Impeller material	chromium cast iron
Pump body material	stainless steel
Motor type	gears group 2
Oil flow	30 - 40 l/min
Ideal flow	38 l/min
Oil pressure	140 - 210 bar
Backpressure	17 bar max



WATER PUMPS

SP 55

Heavy Duty Hydraulic Trash Pump

mouth 5"

*Ideal response
for emergencies
from floods*



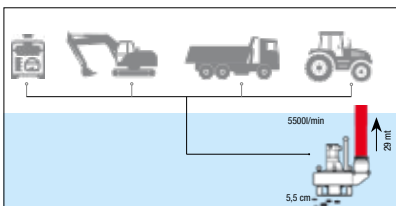
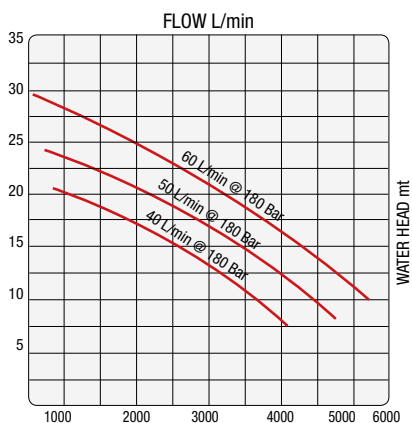
- Pump everything! The shearing impeller can shred and pump branches, algae, rags, ropes, bags and solid objects with dimensions up to 55 mm

- High performance, weight/size/power ratio unmatched by other types of pump - long working life, minimal maintenance

- No electricity means safety, it can be used while standing in the water close to the pump (a situation forbidden by law with electro pumps)

- The piston engine guarantees maximum efficiency and the possibility of running the pump dry without damaging it

- Possibility to install the SG6 mixer accessory whit the function of liquified liquids that are very dense or dry into more fluid liquids and therefore pumpable



Shearing impeller



Possibility to install the SG4 mixer accessory which makes it possible to make liquids that are very dense or with a dry surface more fluid and therefore pumpable.

WATER PUMPS

SP 55

Heavy Duty Hydraulic Trash Pump

mouth 5"

SP55 is a powerful submersible trash pump with hydraulic piston motor and a 5" discharge port, ideal for pumping large volumes of clear and dirty water, in emergency interventions in civil protection, in the military sector and in the movement of large volumes of charged fluids. The maximum capacity is 5500 L / min with water head up to 29 meters - pumpable solids 5.5 cm. The particular impeller with cutting knives allows cutting and pumping also of suspended solids such as leaves, branches, algae, ropes or even large linear fibers. The hydraulic powering offers a long series of safety, operational and performance advantages that can not be obtained from traditional priming or electropumps. A typical application is that the pump is mounted on the excavator arm instead of the bucket, transforms the excavators into very powerful water scoops.



TECHNICAL CHARACTERISTICS	SP 55
Discharge mouth	5" bsp female UNI 70
Dimension LxH (mm)	500x800
Weight	95 KG
Flow	5500 l/min
Water head	29 mt max
Pumpable solids	5,5 cm
Impeller type	open with shearing effect
Impeller material	high tensile steel
Pump body material	cast iron spheroidal
Motor type	piston type
Oil flow	50 - 100 l/min
Ideal flow	75 l/min
Oil pressure	150 - 350 bar
Back pressure	17 bar max
Oil house dimension	3/4" minimum size



WATER PUMPS

SP 65

Heavy Duty Hydraulic Trash Pump

mouth 6"

*Ideal response
for emergencies
from floods*



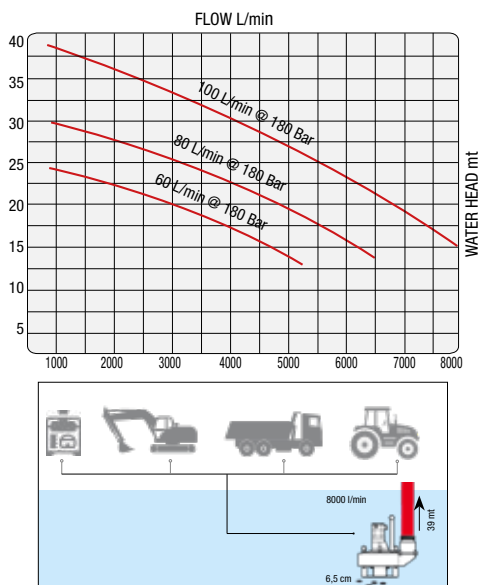
- Pump everything! The shearing impeller can shred and pump branches, algae, rags, ropes, bags and solid objects with dimensions up to 55 mm

- High performance, weight/size/power ratio unmatched by other types of pump - long working life, minimal maintenance

- No electricity means safety, it can be used while standing in the water close to the pump (a situation forbidden by law with electro pumps)

- The piston engine guarantees maximum efficiency and the possibility of running the pump dry without damaging it

- Possibility to install the SG6 mixer accessory with the function of liquified liquids that are very dense or dry into more fluid liquids and therefore pumpable



Shearing impeller



Possibility to install the SG4 mixer accessory which makes it possible to make liquids that are very dense or with a dry surface more fluid and therefore pumpable.

WATER PUMPS

SP 65

Heavy Duty Hydraulic Trash Pump

mouth 6"

SP65 is a powerful immersion trash pump for sewage water with hydraulic piston motor and 6" discharge port, ideal for pumping clear and dirty water, in emergency interventions in civil protection, in the military sector and in the movement of large volumes of charged fluids. The maximum capacity is 8000 L / min with head up to 39 meters - pumpable solids 6.5 cm. The particular impeller with cutting knives allows cutting and pumping also suspended solids such as leaves, branches, rags, algae, ropes or even large linear fibers. The hydraulic operation offers a long series of safety, operational and performance advantages that can not be obtained from traditional priming or electropump pumps. A typical application is that of the pump mounted on the excavator arms instead of the bucket, transforms the excavators into very powerful water scoops.



TECHNICAL CHARACTERISTICS	SP 65
Discharge mouth	6" bsp female
Dimension LxH (mm)	550x900
Weight	135 KG
Flow	8000 l/min
Water head	39 mt max
Pumpable solids	6,5 cm
Impeller type	open with shearing effect
Impeller material	high tensile steel
Pump body material	cast iron spheroidal
Motor type	piston type
Oil flow	60 - 100 l/min
Ideal flow	80 l/min
Oil pressure	150 - 350 bar
Back pressure	17 bar max
Oil house dimension	3/4" minimum size



WATER PUMPS

SG4 - SG 6

Fluid mixer accessory for pumps SP45 - SP55 - SP65

MIXING VALVE FOR FLUIDIFICATION OF VERY LOADED WATER

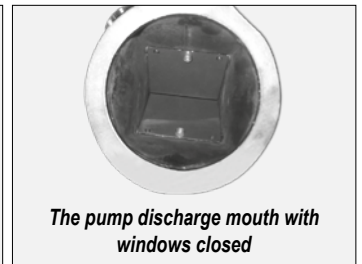


SG4 installed
on SP45 pump

TECHNICAL CHARACTERISTICS	SG 4	SG 6
Weight dry	9 KG	12 KG
Fluid passage	equivalent at 4"	equivalent at 5"
Total high	370 mm	420 mm
Type cylinder	double effect	double effect
Hydraulic valve	3 positions, open center	3 positions, open center



3 position control valve
for opening/closing windows of pump



The pump discharge mouth with
windows closed

Slurry Gate is an accessory for trash pumps DOA models SP45 - SP55 - SP65. The accessory is a set formed by:

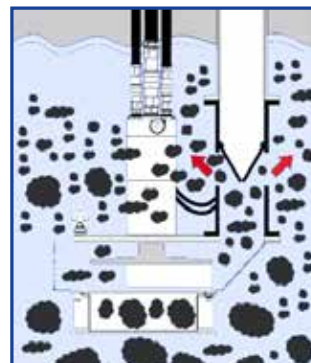
- **SG4 - SG6 body and cylinder, this element to be installed on the pump outlet mouth.**
- **Hydraulic control valve and hoses that can control the opening/ closing action of the slurry gate.**

The **Slurry Gate** is a "retrofit accessory" that can be installed on pumps, its action as mixer is necessary when the liquid to pump is very thick and have suspended solids (like sediments, mud balls or oil balls or other agglomerate of semi solid/ pasty liquids) the above must be disintegrated to become more fluid and pumped, is needed also to avoid choke at the pump inlet. After some minutes of this treatment the liquid can be pumped easier and the pump will run in its natural function. The length of the hydraulic pipe that connects the three-position valve to the mixer body must be prepared by the customer or ordered at DOA at the time of purchase.

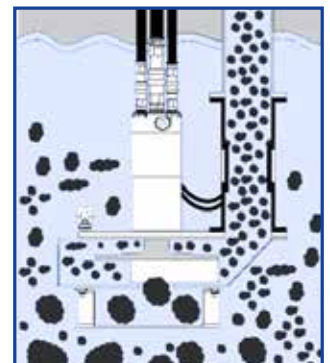
HOW IT WORKS

Action of **SG4** is very simple: it is a flow diverter placed on the out let mouth of the pumps, that can direct the fluid in its natural "upward" pumping direction or divert it aside bypassing from the two openings and repumped in its bed. Once the fluid is shaken and minced at more liquid state and can be pumped, will be enough to close the side openings (by acting on the oil valve that is part of the set) and the pump can be used in the normal pumping action.

WINDOWS OPEN
Pump impeller is mincing suspended solids



WINDOWS CLOSED
Fluid is pumped up from outlet passage



WATER PUMPS

TWP 40

Water pump for testing pressure holding capacity on water networks

Gasoline pump

- *High quality two diaphragm pump and engine speed reductor*
- *Water filter on suction line to prevent stone and particles to enter in pump*
- *High quality water tank with large filler aperture for loading and cleaning*
- *Quick bayonet tank connection for continuous refilling*
- *Can run dry without damage*
- *Stainless steel square tube frame*



TWP40 is a modern gasoline engine water pump with adjustable pressures up to 40 Bar and flow up to 60 L/min, pump is designed to make test and pressure drop related to time on new water networks. The pump characteristics and its versatility allow to perform the majority of test requested by the European norms. The construction quality, the rational position of components, the practical controls and regulation features makes its operations easy and intuitive to guarantee an use precise and problems free.

TECHNICAL CHARACTERISTICS	TWP 40
Weight dry (kg)	50
Dimension (LxH) (cm)	70x50x70
Engine	Briggs & Stratton 6 HP Gasoline
Starting	recoil
Water flow L/min	60 - max adjustable
Water pressure	40 Bar - max adjustable
Water tank (l)	30
Water outlet connection	female swivel 3/8" BSP



WATER PUMPS

WP 116

Self-Priming pump with hydraulic motor for evacuation from siphons of gas networks



- *Practical, robust and safe is irreplaceable in its application*
- *Fabricated in "spark free" anti explosive bronze*
- *Large water filter prevents dirt and metal chips to enter in the pump*
- *The water filter can be open in few seconds for cleaning and inspection*
- *Requires minimal and easy maintenance*

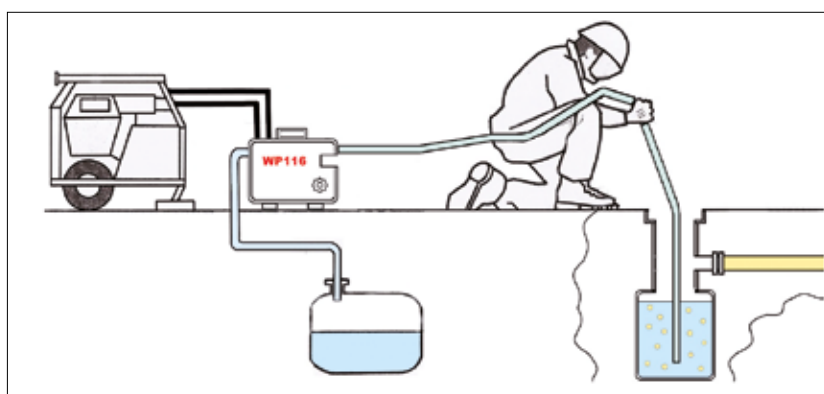
WP116 CAN BE USED FOR MOVEMENT OF HOT WATER FROM HEATING NETWORKS, FOR USE OF THE PUMP WITH HOT WATER UP TO 100 ° C. REQUEST THE CONSTRUCTION OF THE PUMP WITH VITON® GASKETS FOR HIGH TEMPERATURES (AT A HIGHER PRICE)

WP116 is a modern self priming water pump with hydraulic motor. The pump is designed for the suction and evacuation of water that accidentally entered in the collecting siphons located in the lower parts of gas networks. Water can enter into gas pipes after ruptures or maintenance interventions, this mass of water accumulated in the lower part of the network can fill up the siphons and also overflowing choking the pipes and preventing the normal free gas passage that inevitably flows away by "waves" causing water entering and damaging the gas meters and creating other problems that are well known by the gas maintenance crews. **WP116** is made in spark free bronze and with moving parts without metal/metal contacts so no possibility of creating localised overheated points. The hydraulic functioning (no electricity!) means implicit safety that has to be absolutely guaranteed in this delicate operation. For the use is enough to connect the suction mouth of pump with a flexible hoses to the siphon and then prime and pump out the mixture water/ gas / air, all in absolute safety and with the gas line in normal working condition. The fluid extracted has to be successively disposed according to local rules as it is a special waste. **WP116** is unique in its type, for characteristics, function and safety assurance cannot miss in the equipment of modern gas maintenance crews.

WATER PUMPS

WP 116

Self-Priming pump with hydraulic motor for evacuation from siphons of gas networks



WARNING The pump must not run completely dry for more than two minutes, this could damage the seals, if there is water in the siphon the pump will stick and pump after a few seconds. The pump can tolerate partially dry uses, as long as there is a minimum presence of water due to a small loss from a district heating network. A couple of minutes after the complete complete evacuation of the water must be interrupted.

TECHNICAL CHARACTERISTICS	WP 116
Weight (kg)	20
Dimension (LxH) (cm)	50x30x30
Water flow	110 L/min@1mt-25 L/min@20 mt
Water head	20 mt (2Bar)
Suction height	6 mt max from water level
Mouth dimension	diameter 40 mm both suction pressure
Suction diameter	ideal 25 mm
Pumpable fluid	only filtered water
Oil flow	20-30 L/min
Ideal oil flow	20 L/min
Oil pressure	100-210 Bar



FLOW CONTROL VALVE

RFP 50 - RFP 50V

Hydraulic valves for regulation flow pressure

Are supplied with short hoses and couplers as shown in illustration

Hydraulic valve for the control of flow control of flow and pressure, assure that tools are supplied with the correct hydraulic values for safety and avoid damages to the equipment, the valves body is in laminated aluminium with anodised surface, the cartridge elements are of the best quality to assure a stabile and precise regulation.



RFP50 - FLOW/PRESSURE CONTROL VALE

The regulated flow is fixed and pre set at the factory and cannot be charged, this fix configuration of the output flow avoids manumission and errors. Customer must require the needed regulated flow at the order.

The valve can receive a maximum incoming flow at 60 L/min.

The valve can regulate the following fixed flows: 15-21-25-30-36 L/min.

The regulated pressure valve must be adjustable by the customer.

RFP50 V - FLOW/PRESSURE CONTROL VALVE

The output regulated flow is adjustable according to necessary in any moment..

The valve can receive a maximum incoming flow of 60 L/min.

The valve can regulate at maximum flow 38 L/min.

The regulated pressure valve must be adjustable by the customer.

TECHNICAL CHARACTERISTICS	RFP 50	RFP 50 V
Dimension (LxPxH) (cm)	13x10x5	13x10x5
Flow in	60 L/min	60 L/min
Flow reg	15-21-25-30-36 L/min	0-36 L/min
Pressure in	250 Bar max	250 Bar max
Pressure reg	10-200 Bar max	250 Bar max
Port thread in	3/4" BSP female	3/4" BSP female
Port thread reg	1/2" BSP female	1/2" BSP female

FLOW CONTROL VALVE

RFP 70

Hydraulic valves for regulation flow pressure

Valve is supplied bwith 1/2" flush face quick couplers only in the regulated side as shown in illustration

Hydraulic valve for the control of flow control of flow and pressure, assure that tools are supplied with the correct hydraulic values for safety and avoid damages to the equipment, the valves body is in laminated aluminium with anodised surface, the cartridge elements are of the best quality to assure a stable and precise regulation.



RFP70

Both threads in pressure and regulated side are 1" BSP. Hydraulic valve for the control of flow control of flow and pressure, assure that tools are supplied with the correct hydraulic values for safety and avoid damages to the equipment, the valves body is in laminated aluminium with anodised surface, the cartridge elements are of the best quality to assure a stabile and precise regulation. The valve can receive a maximum incoming flow of 90 L/min. The valve can regulate a maximum flow of 50 L/min. The output regulated flow is adjustable according to necessity in any moment. The regulated pressure valve must be adjustable by the customer.

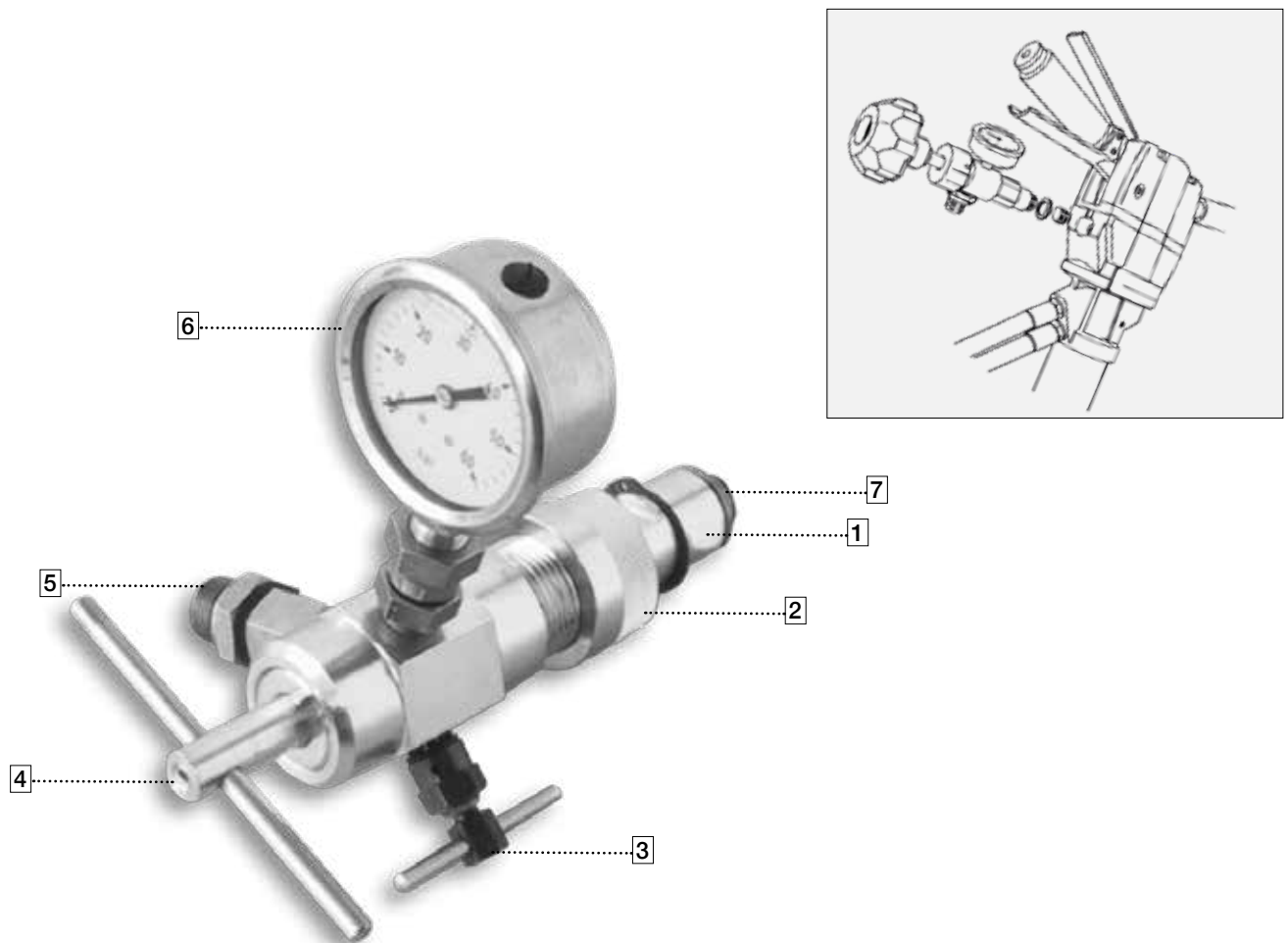
TECHNICAL CHARACTERISTICS	RFP 70
Dimension (LxPxH) (cm)	13x10x6,5
Flow in	90 L/min
Regulated flow	50 L/min
Pressure in	350 Bar max
Pressure adjustable	10-250 Bar max
Port thread in	1" BSP female
Port thread reg	1" BSP female

FLOW CONTROL VALVE

CT 100

For pressure and Flow

Service tool for control and charge nitrogen into DOA breakers accumulators



- 1** Adapter the adaptor can be separated from the tester body
- 2** Ring nut of the adaptor
- 3** Valve for discharging the excess of pressure
- 4** Handle for opening closing the valve cap
- 5** Nitrogen inlet in the tester
- 6** Pressure gauge
- 7** Internal allen key that open/closes the valve cap acting on the handle

CT 100 tool is a service item necessary to make the service of DOA breakers, like all hydraulic breakers DOA hammers are equipped with a nitrogen accumulator that in case of failure has to be replaced and recharged with nitrogen at a pressure between 35-40 Bar. **CT100** allows to open up the check valve of the accumulator, to adjust the recharging nitrogen pressure and to close the check valve.

FLOW CONTROL VALVE

FLOW AND PRESS TESTER

For pressure and Flow

- It is possible to visualize the actual data of flow and the interaction between flow, pressure and back pressure closing progressively the tester restriction valve
- It is possible to take the maximum pressure of the circuit (static pressure) and the pressure value of the pre-opening of the relief valve (cracking pressure) that corresponds to the real relief valve setting, it is also possible to see the engines speed under load, like controlling revolution drop or raise etc.
- It is possible to create the necessary load on the circuit to simulate the operative condition of the tool and getting data to make a graph temperature/time
- Allows to make an accurate regulation of the hydraulic circuit of a power pack or mini excavator or any hydraulic machine and to control its real values.



The tester is an indispensable measuring instrument for hydraulics that allows to visualize anywhere , precisely and in real time the maximum and relative values of: **flow-pressure-back pressure and the interaction of these values.**

The tester can control on the job site the hydraulic characteristics of power packs, trucks, excavators and earth moving equipment, street sweepers, and all hydraulic machines locating immediately the problems of the circuits that often are the causes of malfunctioning of the tools. The instrument is robust, light, easy to use and thanks to its mechanical functioning can be used also with high presence of water and dirt that are typical situations of the out door use. Surprising are also its precision and cost that is much lower if compared to the expensive and fragile electronic testers.

TECHNICAL CHARACTERISTICS	Tester
Weight (kg)	2,5
Length (cm)	50
Flow max L/min	60
Pressure max	210 Bar
Backpressure	max 60 Bar

