



HAND PUMPS — FULL RANGE

Hand Pump Range

Manual hydraulic pumps, power-tool driven pumps, oil tanks and spares · single acting, double acting, in-line and dual-drive

300^{bar}

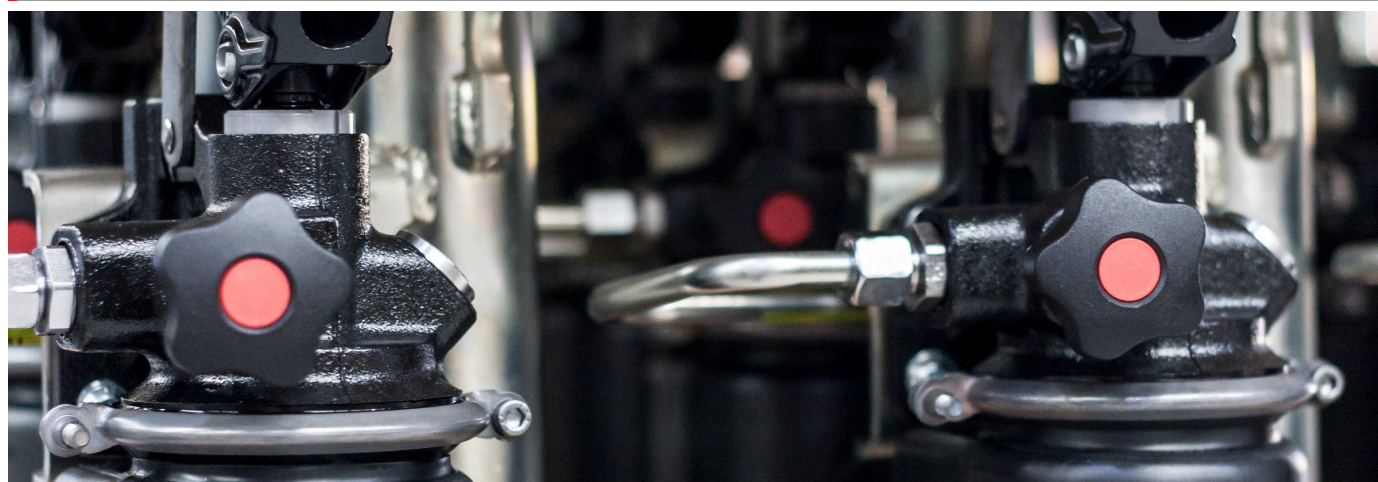
Highest working pressure (P1230SV1)

5–35^{cc}

Displacement per stroke

1–6^L

Oil tank capacities

2Drive options:
lever or cordless drill

Range overview

Product family	Part numbers	Key data	Section
Standard hand pumps	P1230SV1, P12SV1, P16S1/D1, P20S1/D1, P20SDA1, P25SDA1, P25DDA1	5–30 cc/stroke · 120–300 bar · single, double & dual action	1
Oil tanks – steel & plastic	RP1, RP2, RP4 · RP1P, RP2P, RP4P, RP6P · KITFPRP collar	1–6 litres · steel or black PE plastic · collar fits steel-tank pumps to plastic tanks	2
Eco hand pumps	PE14S, PE16S, PE20S, PE25S	15–35 cc/stroke · 100–240 bar · vertical or horizontal	3
In-line hand pumps	PL16S, PL20S	15–25 cc/stroke · 150–200 bar · remote mounting	4
Flexepump (hand + drill)	Flexepump 5 L / 6 L	Hand pump 150 bar + gear pump 180 bar from an 18 V drill	5
Power tool driven pump	PTDPS-DS001 · RP4P / RP6P	0.32–0.88 cc/rev gear pump · 12 mm A/F hex drive	6
Selection, schematics & spares	PROB, BOR12, PMA1, JP., LEV/PM, LEV-495, JRPK	Lever effort chart, circuits, spare parts, priming & fault finding	7–9

Complete hand pump systems – choose the pump head, tank and lever to suit the application, with full spares back-up.

Please note: RP6 and RP8 **steel** tanks are no longer supplied; for 6 litres use the RP6P plastic tank. Levers are sold separately unless stated.



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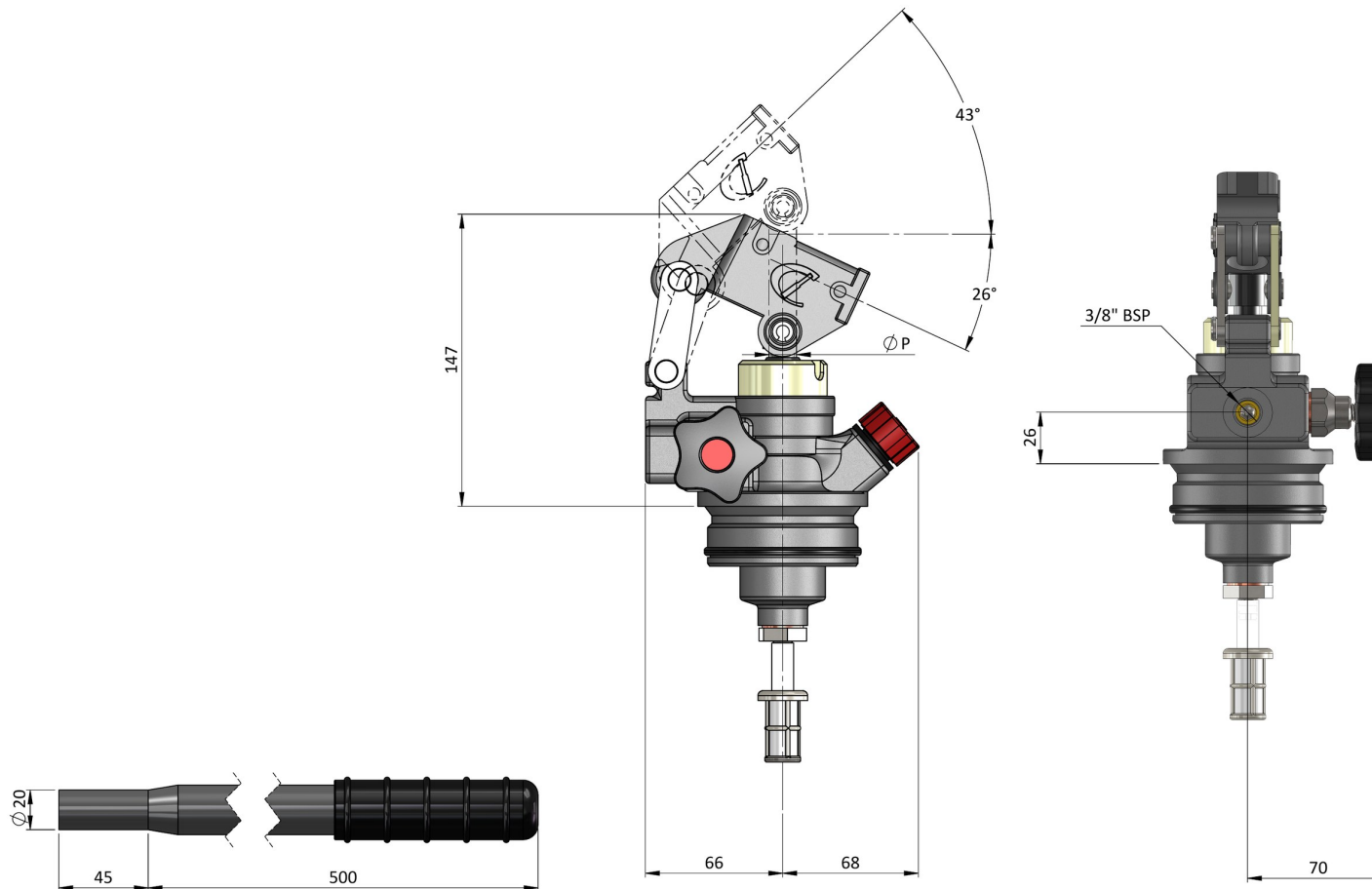
HAND PUMPS & OIL TANKS

Product data sheet

C & C HYDRAULICS — HAND PUMPS — SECTION 1

Single Acting Pump Head (P...S1 / P...SDA1)

Single 3/8" BSP pressure port · release valve back to tank · shown with LEV/PM 500 mm lever



KEY DIMENSIONS

Height	147 mm
Width	66 + 68 mm
Depth	70 mm
Port	3/8" BSP
Port height	26 mm
Lever travel	43° / 26°



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C & C HYDRAULICS — HAND PUMPS — SECTION 1

Standard Hand Pumps

Technical Data Sheet

300 ^{bar}

Max pressure
(P1230SV1 high stage)

30 ^{cc}

Largest
displacement

9

Pump heads
in the range

3/8 ["]

BSP ports

Models available

Part No	Piston Ø T	Vol. (cc/stroke)	Weight	Max pressure	Type / description
P1230SV1	Ø12 / 30	5 / 25	3.4 kg	300 / 50 bar	Single acting, two-stage, integral relief valve
P12SV1	Ø12	8	3.1 kg	300 bar	Single acting, integral relief valve
P16D1	Ø16	15	3.2 kg	200 bar	Double acting
P16S1	Ø16	15	3.1 kg	200 bar	Single acting
P20D1	Ø20	20	3.2 kg	150 bar	Double acting
P20S1	Ø20	20	3.2 kg	150 bar	Single acting
P20SDA1	Ø14	20	3.2 kg	160 bar	Single acting, dual action
P25DDA1	Ø16	30	3.3 kg	150 bar	Double acting, dual action
P25SDA1	Ø16	30	3.2 kg	120 bar	Single acting, dual action

Understanding the part numbers

Suffix	Meaning
S1	Single acting – one pressure port, for single acting rams; release valve returns oil to tank
D1	Double acting – two 3/8" BSP ports and a built-in directional valve, for double acting cylinders
SDA1 / DDA1	Dual action – delivers oil on both the up and down stroke of the lever for faster operation
SV1	Single acting with integral pressure relief valve; P1230SV1 is two-stage (fast low-pressure fill, then high pressure)

Standard features

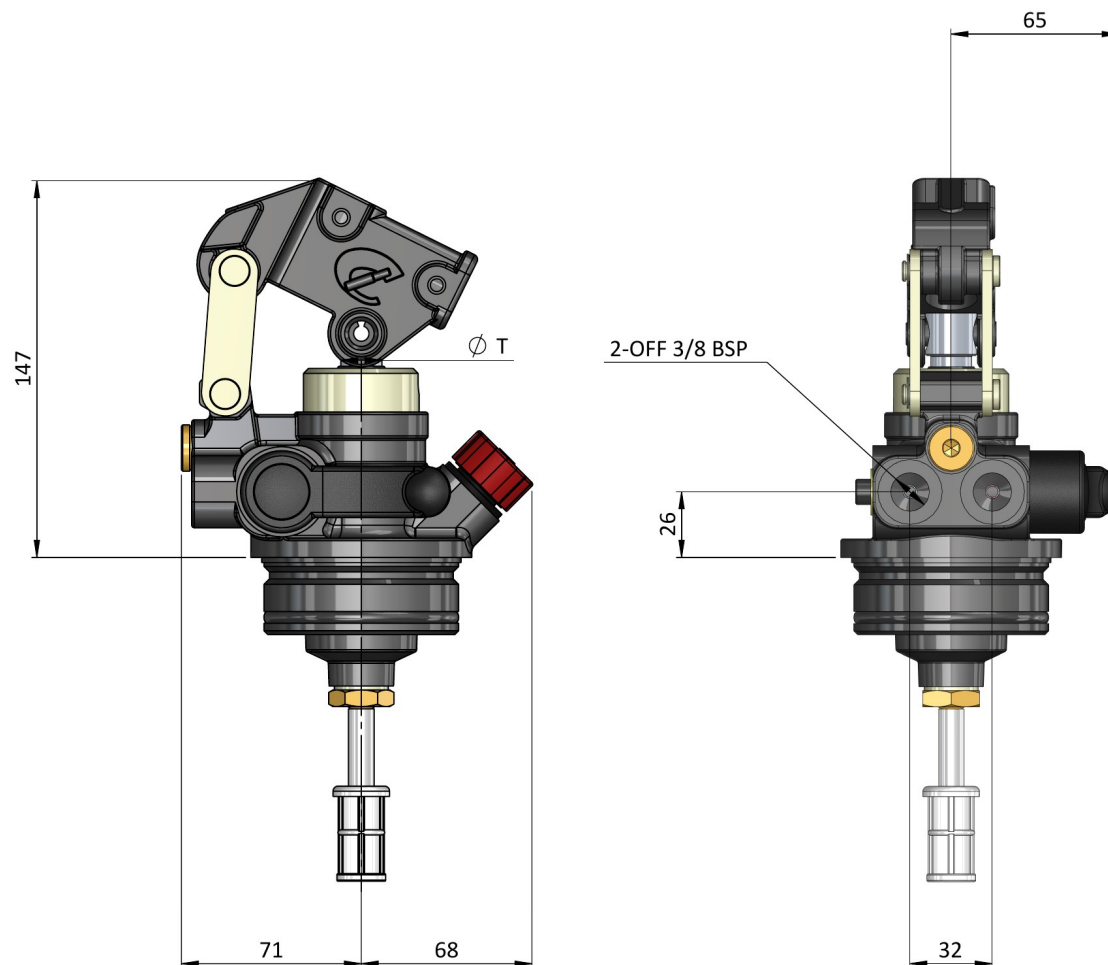
- Stainless steel piston, high-quality seals, red filler/breather cap and release valve knob
- Mounts on any RP steel or plastic tank, or on your own tank using the weldable JRPK mounting collar
- Suction tube and strainer supplied – cut the tube so it just reaches the bottom of the tank
- Vertical or horizontal mounting; lever position adjustable (see section 7)

Ordering: pump heads are supplied without lever – add LEV/PM (500 mm) or LEV-495. See section 7 for the lever effort needed at your working pressure.



Double Acting Pump Head (P...D1 / P...DDA1)

Built-in directional valve · 2 × 3/8" BSP ports for double acting cylinders · 147 mm high



KEY DIMENSIONS

Height	147 mm
Width	71 + 68 mm
Depth	65 mm
Ports	2 × 3/8" BSP
Port height	26 mm
Models	P16D1, P20D1, P25DDA1



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HAND PUMPS & OIL TANKS

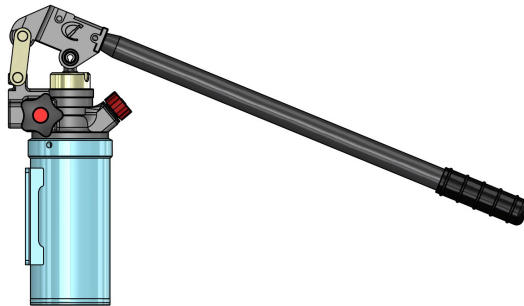
Product data sheet

C & C HYDRAULICS — HAND PUMPS — SECTION 1

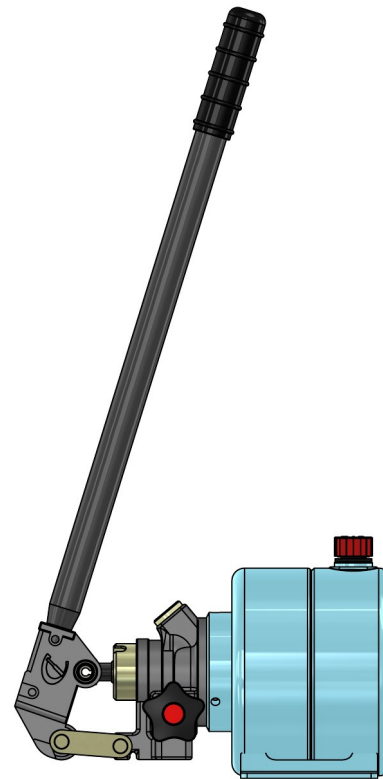
Complete Hand Pump Assemblies

Pump head + tank + lever · vertical, horizontal or bracket mounted

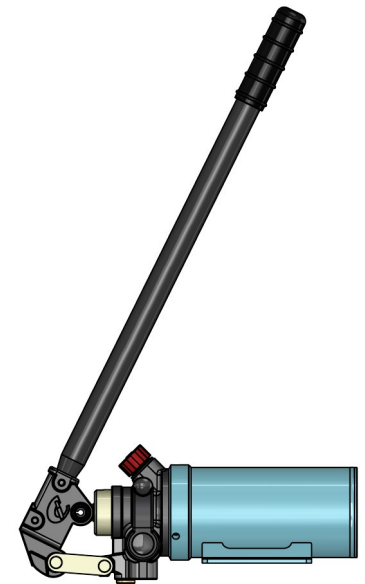
P20S + RP1 +LEVPM



P25DDA + RP1 + LEVPM



P20S + RP2 +LEVPM HORIZONTAL



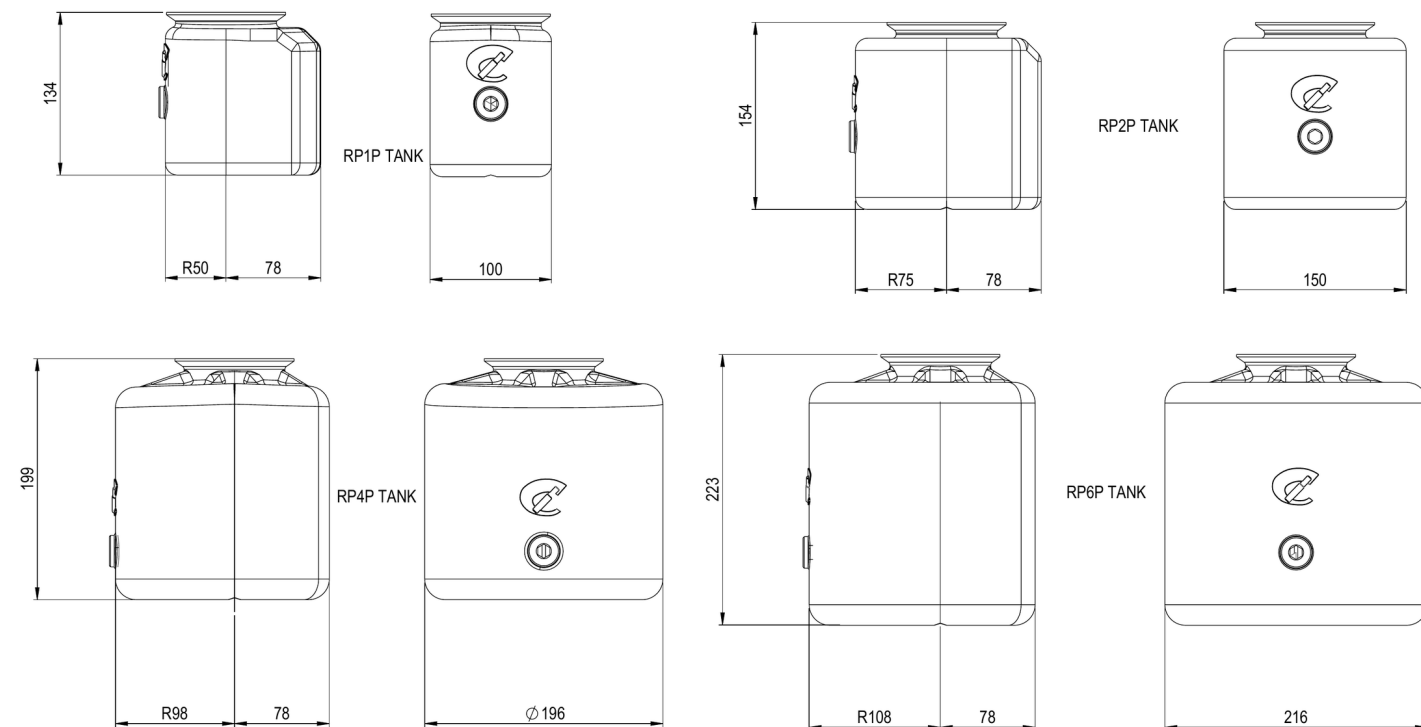
P25DDA + RP1 + LEV/PM

Examples: P20S + RP1 steel tank + LEV/PM lever, mounted vertically, horizontally or on the tank bracket; P20S + RP2 + LEV/PM horizontal; P25DDA double acting + RP1 + LEV/PM.



Oil Tanks – Plastic (RP...P)

Black PE plastic tanks for hand pump heads · 1, 2, 4 and 6 litre · front drain/level boss



KEY DIMENSIONS

Capacities	1 / 2 / 4 / 6 L
Material	PE plastic
Colour	Black
Weight	0.2–0.7 kg
Max height	223 mm
Max width	216 mm



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C & C HYDRAULICS — HAND PUMPS — SECTION 2

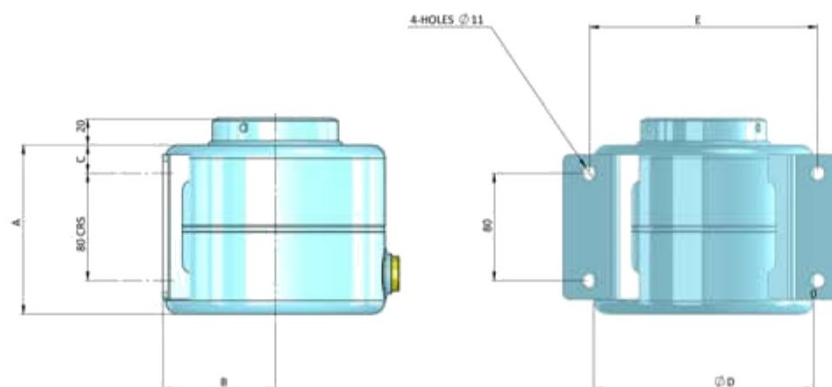
Oil Tanks – Steel & Plastic

Technical Data Sheet

Plastic tanks (black PE)

Part No	Capacity	Height A	Width / Ø B	Depth	Weight
RP1P	1 litre	134 mm	100 mm	128 mm	0.2 kg
RP2P	2 litres	154 mm	150 mm	153 mm	0.3 kg
RP4P	4 litres	199 mm	Ø196 mm	176 mm	0.5 kg
RP6P	6 litres	223 mm	216 mm	186 mm	0.7 kg

Steel tanks (flange mounted)



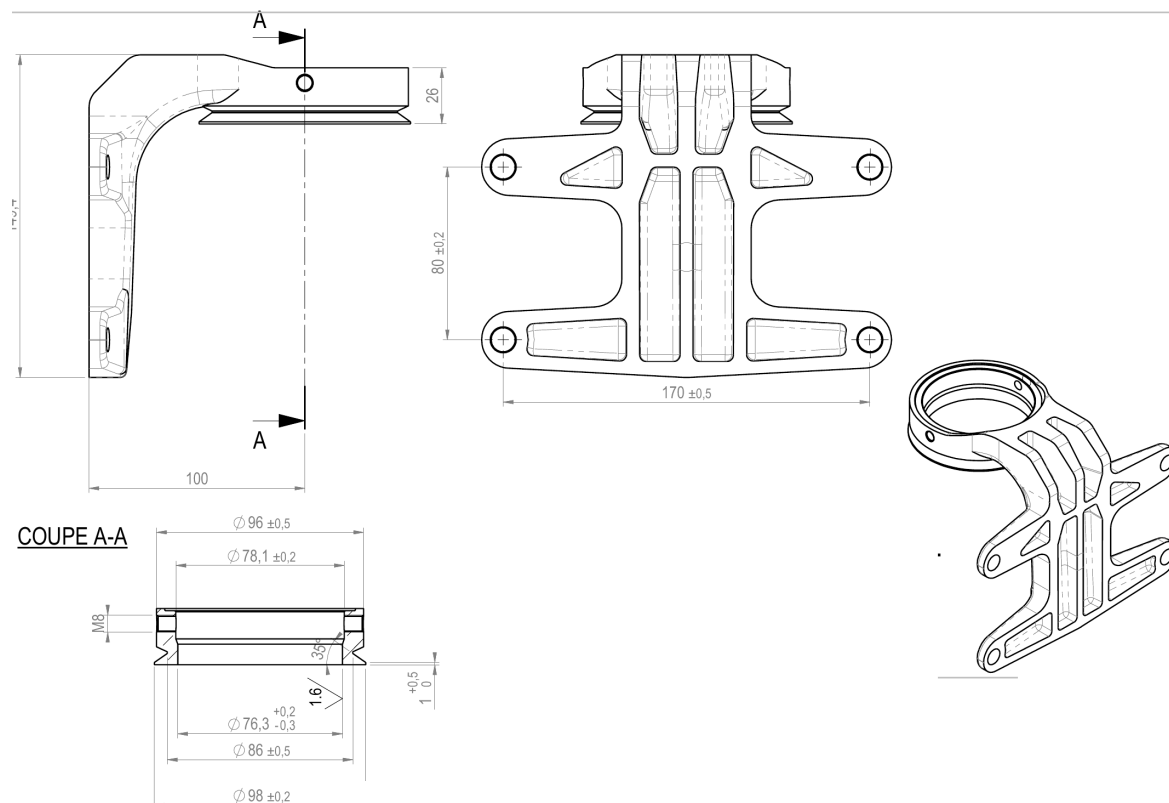
Part No	A	B	C	D	E	Capacity	Weight
RP1	166	50	27	89	135	1 litre	2.2 kg
RP2	126	84	21	164	170	2 litres	2.3 kg
RP4	169	96	36	184	170	4 litres	3.0 kg

RP6 and RP8 steel tanks are no longer supplied. For 6 litres choose the RP6P plastic tank. Steel tanks mount through 4 × Ø11 holes on 80 mm centres. Dimensions in mm.



Hybrid Tank Mounting Collar KITFPRP

Adapter bracket – mounts a standard steel-tank pump head onto a plastic tank or a flat surface



KEY DIMENSIONS

Collar OD	Ø96 mm
Pump spigot	Ø78.1 mm
Height	149.4 mm
Projection	100 mm
Foot width	170 mm
Weight	0.77 kg

The hybrid collar lets the traditional pump heads used on steel tanks (P...S1, P...D1, P...SDA1, P...DDA1) be mounted onto plastic tanks, for applications where the bracket on the hand pump does not suit. The pump head clamps into the Ø96 mm collar with M8 screws, and the cast foot bolts to the tank, chassis or bulkhead through four holes on 80 mm vertical centres. Order as part number **KITFPRP**.



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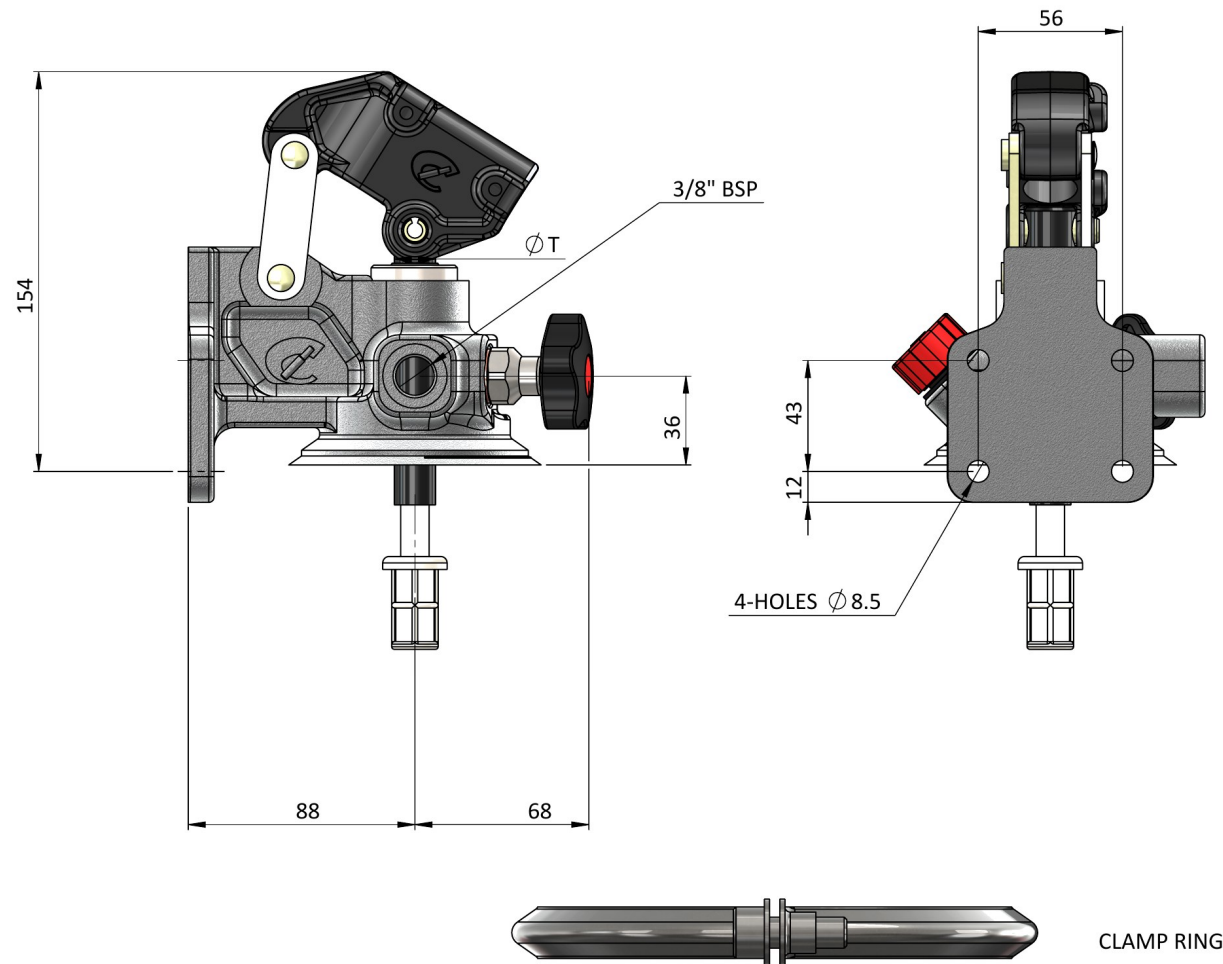
HAND PUMPS & OIL TANKS

Product data sheet

C & C HYDRAULICS — HAND PUMPS — SECTION 3

Eco Hand Pumps (PE...S)

Single acting eco pump head with flange foot · vertical or horizontal mounting · 3/8" BSP port



KEY DIMENSIONS

Displacement	15–35 cc
Max pressure	100–240 bar
Port	3/8" BSP
Weight	3.2 kg
Fixing	4 × $\varnothing 8.5$ holes
Height	154 mm



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C & C HYDRAULICS — HAND PUMPS — SECTION 3

Eco Hand Pumps (PE...S)

Technical Data Sheet

240 ^{bar}

Max pressure
(PE14S)

35 ^{cc}

Largest
displacement

3.2 ^{kg}

Pump head
weight

4

Sizes
available

Models available

Part No	Piston Ø T	Vol. (cc/stroke)	Weight	Max pressure
PE14S	Ø14	15	3.2 kg	240 bar
PE16S	Ø16	17	3.2 kg	200 bar
PE20S	Ø20	25	3.2 kg	150 bar
PE25S	Ø25	35	3.2 kg	100 bar

Dimensions

Overall height	154 mm	Port	3/8" BSP
Body width	56 mm	Fixing holes	4 × Ø8.5 mm
Base footprint	88 + 68 mm	Suction	Spigot with clamp ring

Standard features

- Economical single acting pump head with integral flange foot
- Can be mounted vertically or horizontally – on a tank or remotely
- Pairs with the RP...P black plastic tanks (section 2)
- Release valve knob and filler/breather cap fitted

Ordering: quote the part number (e.g. PE16S) and the tank required. Lever sold separately.



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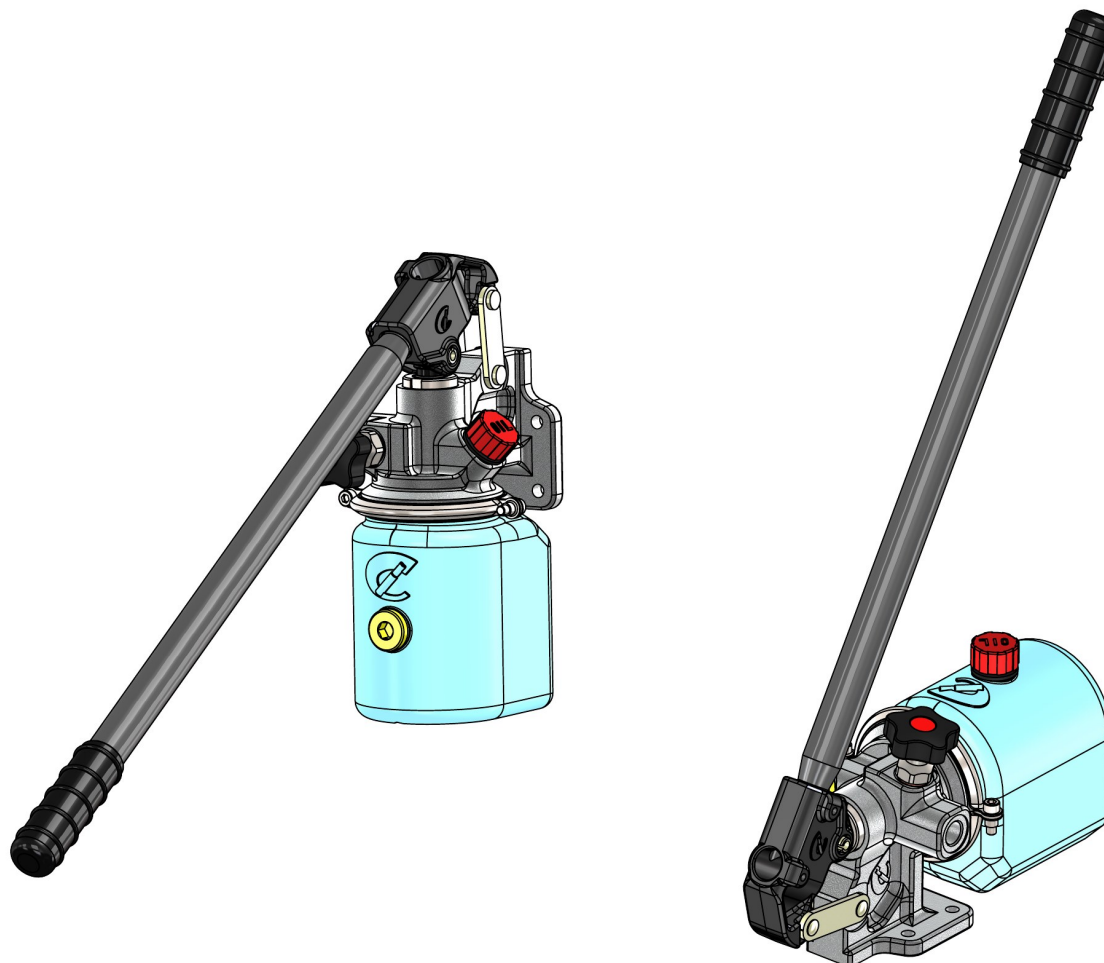
HAND PUMPS & OIL TANKS

Product data sheet

C & C HYDRAULICS — HAND PUMPS — SECTION 3

Eco Hand Pump with Tank

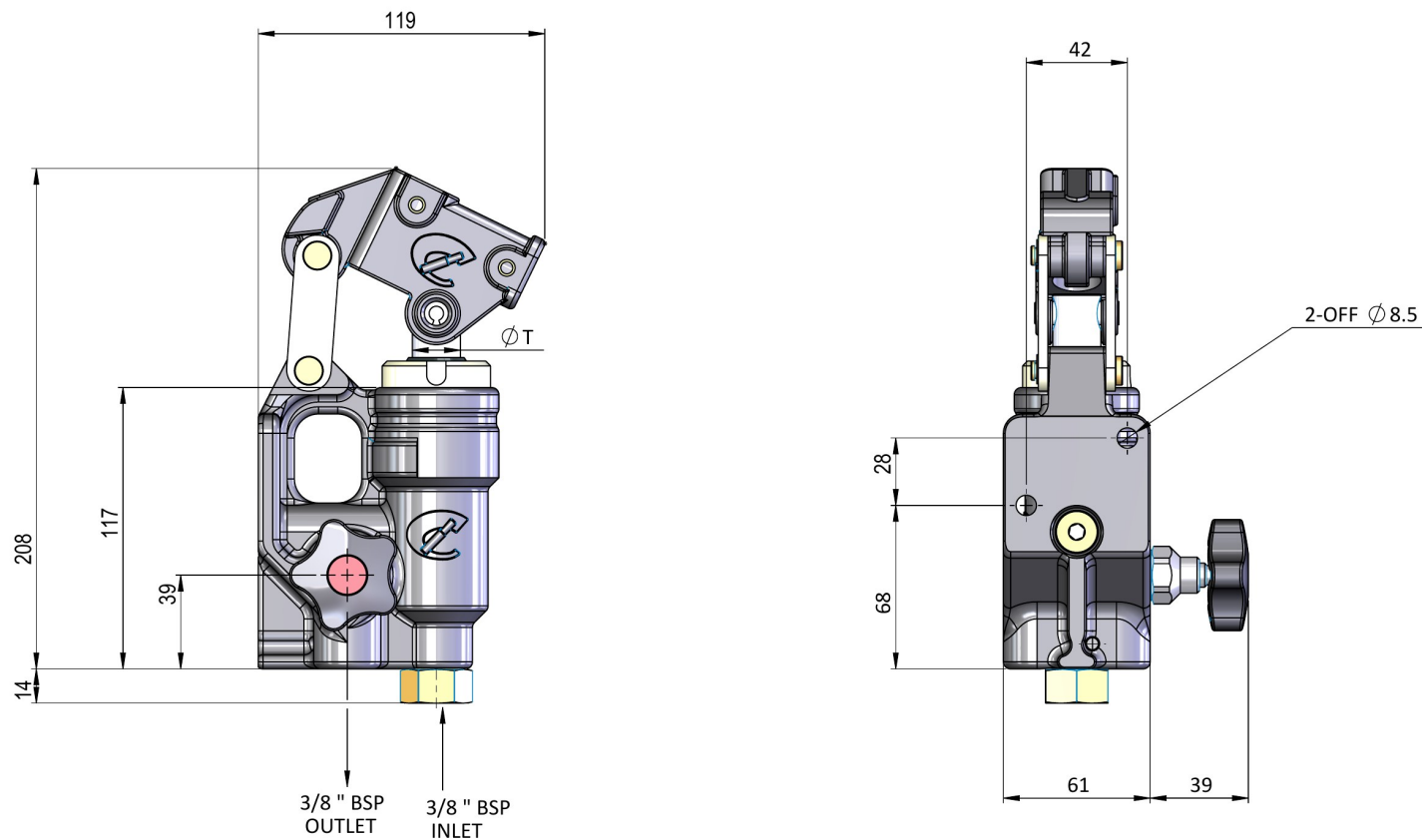
PE20S shown with plastic tank and lever · can be mounted vertically or horizontally





In-Line Hand Pumps (PL...S)

Compact remote-mounted hand pumps · 3/8" BSP inlet and outlet · 2 × Ø8.5 fixing holes



KEY DIMENSIONS

Displacement	15 / 25 cc
Max pressure	200 / 150 bar
Ports	3/8" BSP in/out
Weight	2.8 kg
Height	208 mm
Fixing	2 × Ø8.5 holes



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In-Line Hand Pumps (PL...S)

Technical Data Sheet

200 ^{bar}

Max pressure
(PL16S)

25 ^{cc}

Displacement
(PL20S)

2.8 ^{kg}

Weight

3/8 ["]

BSP inlet
& outlet

Models available

Part No	Vol. (cc/stroke)	Weight	Max pressure
PL16S	15	2.8 kg	200 bar
PL20S	25	2.8 kg	150 bar

Dimensions

Overall height	208 mm	Inlet / outlet	3/8" BSP (base)
Lever pivot width	119 mm	Fixing	2 × Ø8.5 mm holes
Body width	42 mm	Body depth	61 + 39 mm

Features

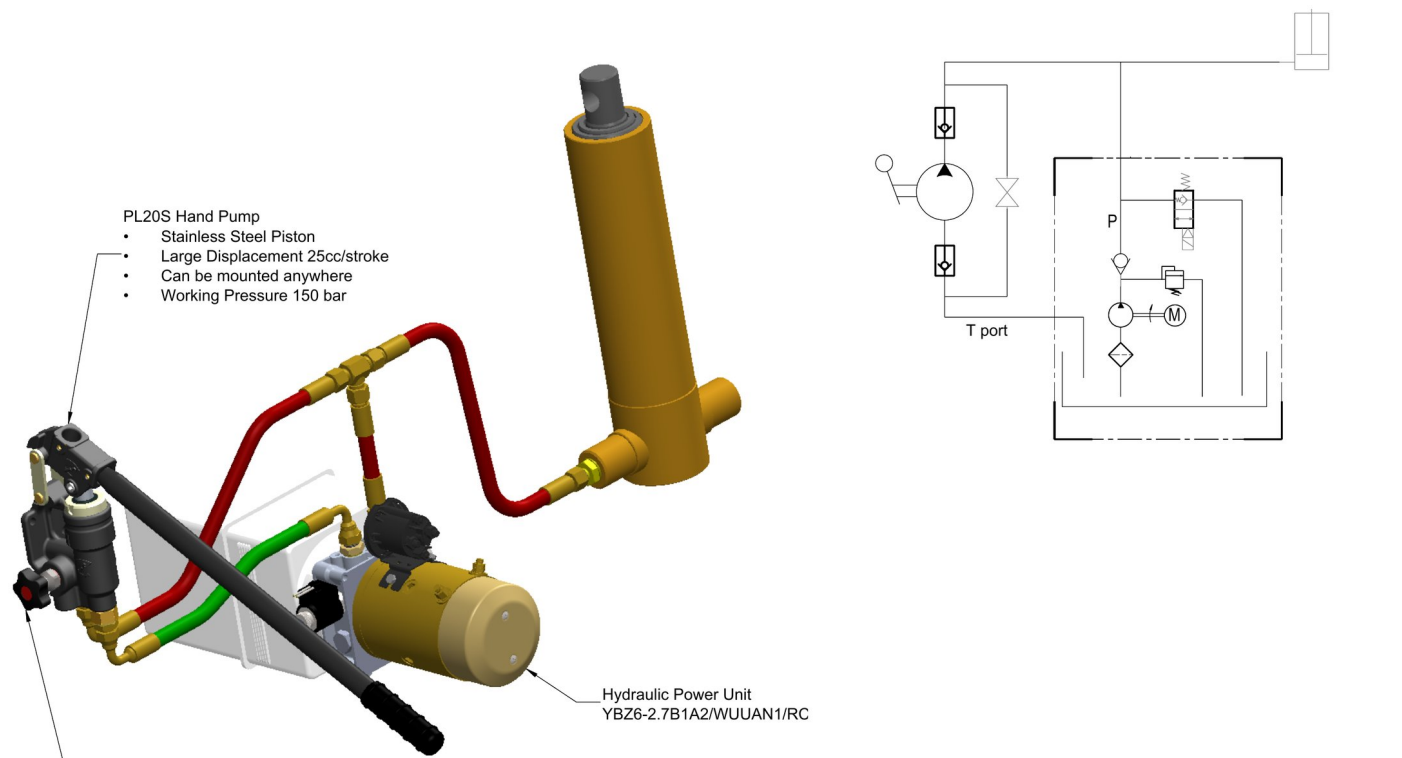
- Suitable for mobile and industrial applications
- Easy to install into existing equipment and new builds
- Compact, lightweight and simple to operate
- Complete with mounting facility
- Stainless steel piston and high-quality seals for durability
- Ideal emergency back-up for power-pack driven systems – see application example

Installer note: ensure the release valve is fully closed before operating the hydraulic system.



Application: Power Pack with Hand Pump Back-Up

PL20S in-line hand pump feeding into the power pack circuit as an emergency back-up



The PL20S in-line hand pump is the ideal emergency back-up for power-pack driven applications. On this small tipper trailer the power pack is mounted under the tipper body for better security, and the hand pump is mounted on the 'A' frame in the optimum position for easy operation. PL20S: stainless steel piston, large 25 cc/stroke displacement, can be mounted anywhere, working pressure 150 bar. Ensure the release valve is fully closed before operating.



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HAND PUMPS & OIL TANKS
Product data sheet

C & C HYDRAULICS — HAND PUMPS — SECTION 5

Flexepump – Hand Pump + Drill-Driven Gear Pump

Compact power pack combining a manual hand pump with a gear pump driven by a cordless drill



180^{bar}

Gear pump
(drill drive)

150^{bar}

Hand pump

1000–1500

Drill speed
(rpm)

18^V

Minimum cordless
drill battery



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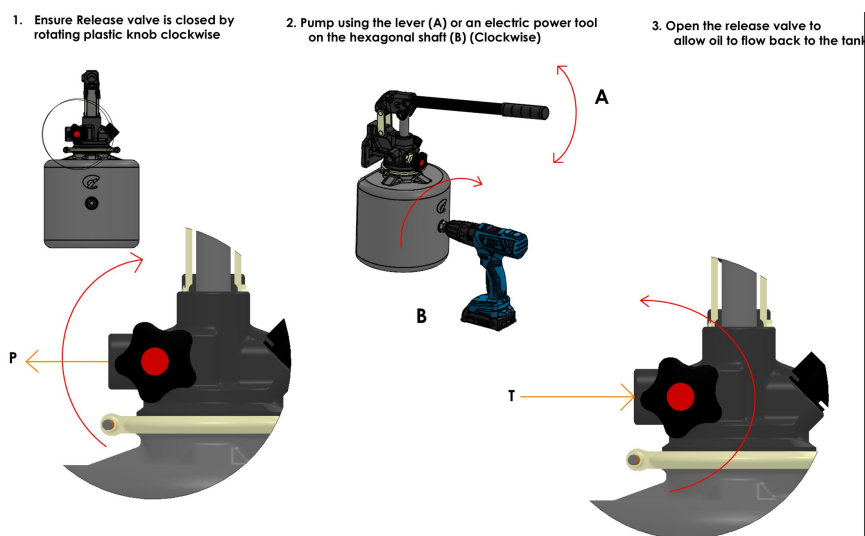
Flexepump

Technical Data Sheet

The best of both worlds: use your cordless drill on the hexagonal shaft for maximum speed – and if the battery runs out, the hand pump will finish the job. Both pumps work independently to generate flow and pressure.

Item	Specification
Hand pump	Single acting, max pressure 150 bar
Gear pump	Max pressure 180 bar · 1000–1500 rpm · 8 mm hexagonal drive shaft (turn clockwise)
Power tool	Cordless drill, minimum 18 V battery, with 8 mm hex socket
Duty	Maximum 3 minutes continuous drill use, then allow to cool
Tank	6 L tank = 5.5 L usable · 5 L tank = 4.5 L usable · tank must be full before use
Oil	Mineral oil only, HV32–HV46 / ISO VG32–46 · HV32 / ISO VG32 recommended below 5 °C
Temperature	–20 °C to +60 °C

How to operate



1. Close the release valve by turning the plastic knob clockwise.
2. Pump using the lever (A) or an electric power tool on the hexagonal shaft (B), turning clockwise.
3. Open the release valve to let the oil flow back to the tank.

Do not use an impact wrench or the impact/hammer mode of your drill · do not apply side force to the shaft · only use the lever supplied, without extensions · take care of the lever moving while pumping with the drill.



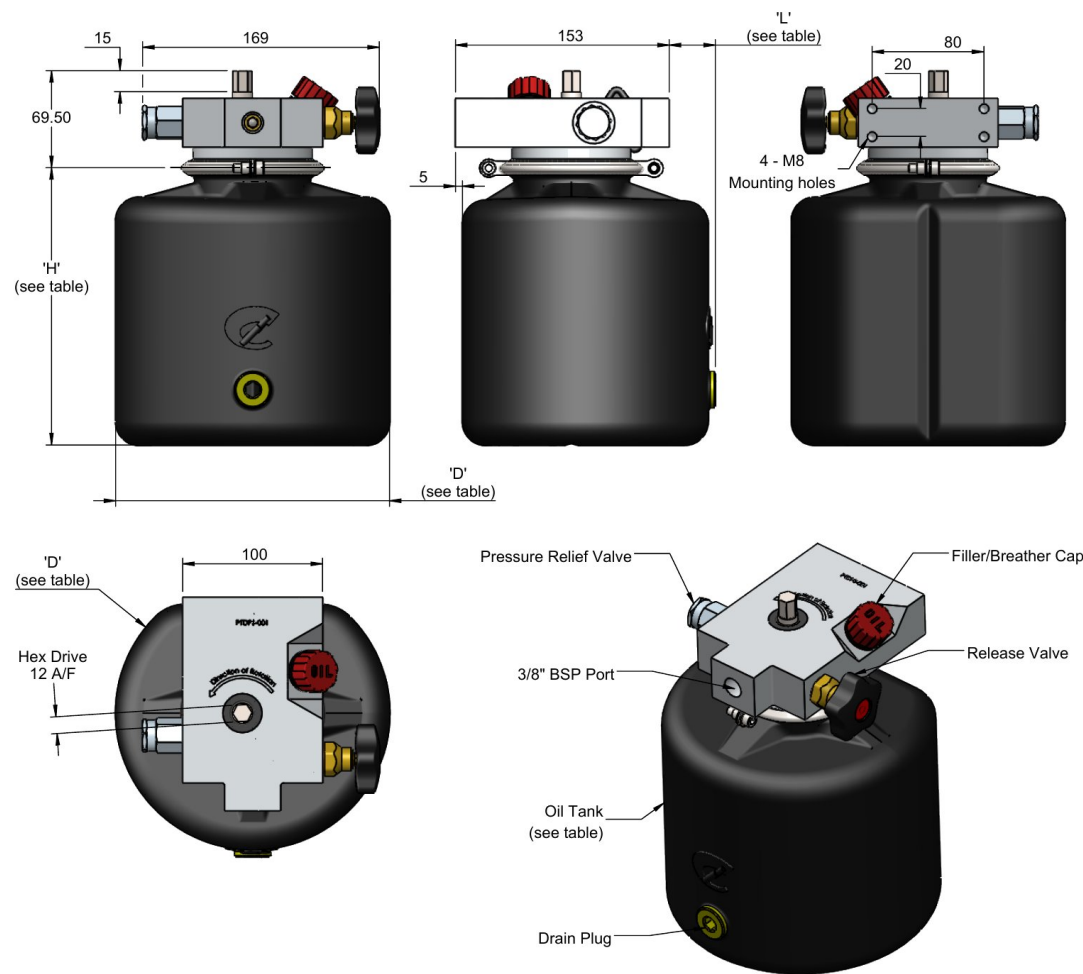
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HAND PUMPS & OIL TANKS
Product data sheet

C & C HYDRAULICS — HAND PUMPS — SECTION 6

Power Tool Driven Pump

PTDPS-DS001 · gear pump driven by a pistol drill · built-in relief and release valves · 3/8" BSP port



KEY DIMENSIONS

Pump options	0.32–0.88 cc/rev
Drive	Hex 12 mm A/F
Port	3/8" BSP
Tank	RP4P / RP6P
Mounting	4 × M8
Block	169 × 100 mm



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C & C HYDRAULICS — HAND PUMPS — SECTION 6

Power Tool Driven Pump

Technical Data Sheet · drawing ref PTDPS-DS001

Available pump options

Reference	Displacement
0.32	0.32 cc/rev
0.50	0.50 cc/rev
0.75	0.75 cc/rev
0.88	0.88 cc/rev

Available tank options

Reference	Capacity	D (mm)	H (mm)	L (mm)
RP4P	4 litres	196	200	33
RP6P	6 litres	216	225	43

Dimensions & features

Valve block	169 × 100 mm, 69.5 mm high	Drive	Hex drive 12 mm A/F
Mounting	4 × M8 holes (80 × 20 mm)	Port	3/8" BSP
Width (front)	153 mm	Valves	Pressure relief valve + release valve
Tank fittings	Filler/breather cap, drain plug	Tank	RP4P or RP6P black plastic

Ordering: specify the pump option (e.g. 0.50 cc/rev) and tank (RP4P or RP6P). Use a drill without impact mode. Contact us for pressure settings and flow at your drill speed.



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C & C HYDRAULICS — HAND PUMPS — SECTION 7

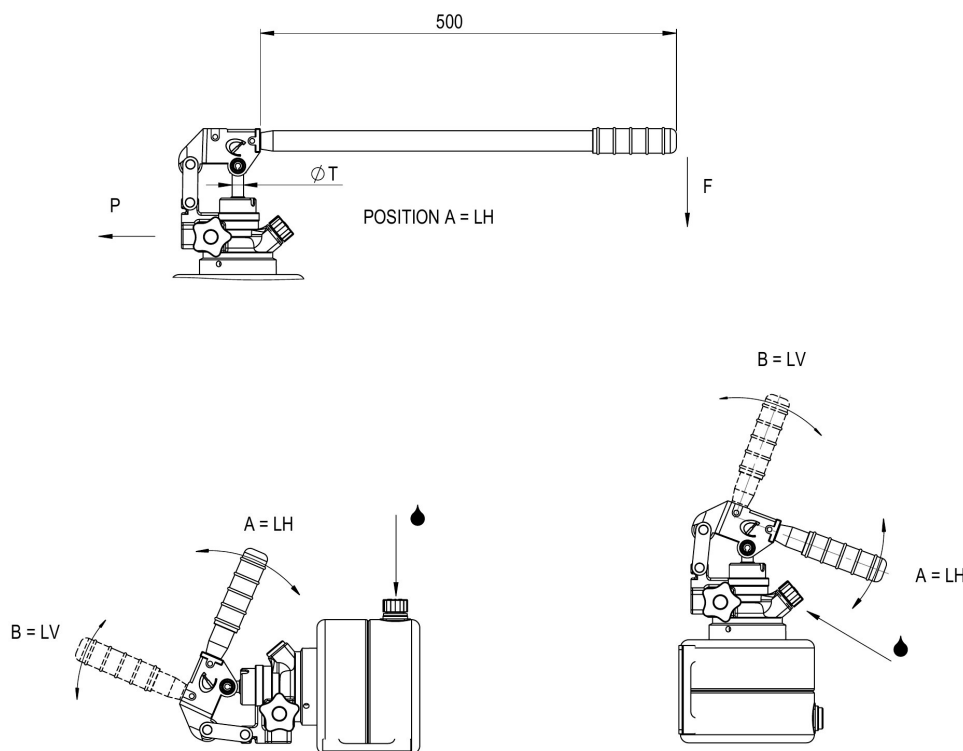
Selection Guide: Lever Effort & Mounting

Pressure achieved for a given effort on a 500 mm lever, by piston diameter T

Effort F (N)	Ø12	Ø14	Ø16	Ø20	Ø25	Ø30
100	70 bar	50 bar	40 bar	25 bar	17 bar	12 bar
200	140 bar	100 bar	80 bar	50 bar	35 bar	25 bar
300	210 bar	155 bar	120 bar	75 bar	50 bar	35 bar
400	280 bar	205 bar	160 bar	100 bar	70 bar	45 bar
500	350 bar	260 bar	200 bar	125 bar	85 bar	60 bar
600	—	310 bar	240 bar	150 bar	100 bar	70 bar
700	—	—	280 bar	175 bar	120 bar	85 bar
800	—	—	320 bar	200 bar	135 bar	100 bar

100 N $\approx$ 10 kg force on the end of the lever. Smaller pistons reach higher pressure for the same effort but move less oil per stroke.

Mounting positions & lever force



Force F is applied at the end of a 500 mm lever. All our hand pumps can be mounted vertically or horizontally; the lever can be set in-line (position A = LH) or across the pump (position B = LV).

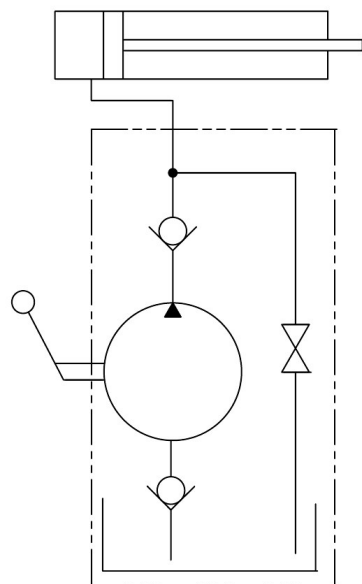


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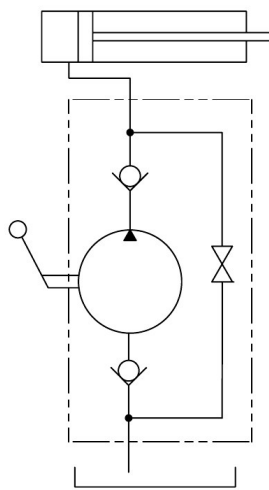
C & C HYDRAULICS — HAND PUMPS — SECTION 7

Circuit Schematics

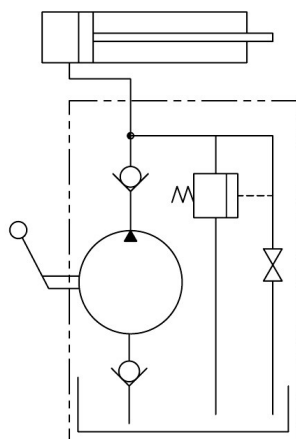
Hydraulic circuits for each type of hand pump



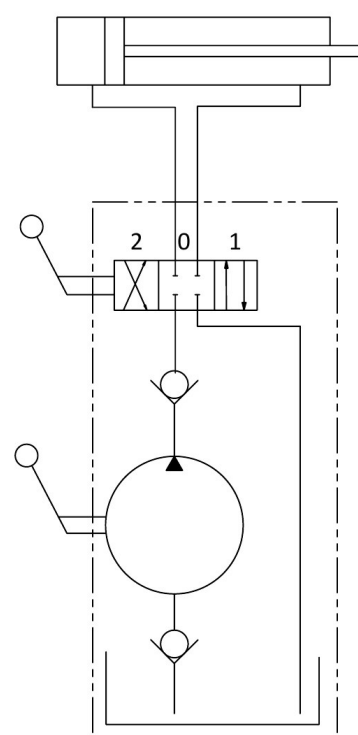
P16S & PE16S HAND PUMP



PL16S HAND PUMP



P1230SV1 & P12SV1



P16D HAND PUMP

Schematic	Applies to	Circuit
Single acting	P16S, PE16S (and all P...S1 / PE...S)	Pump with suction and delivery check valves; release valve back to tank
In-line	PL16S, PL20S	As single acting, with separate tank inlet and outlet ports
Single acting with relief	P1230SV1, P12SV1	Adds an integral pressure relief valve
Double acting	P16D (and all P...D1 / P...DDA1)	Built-in 3-position directional valve (2-0-1) to drive either side of the cylinder

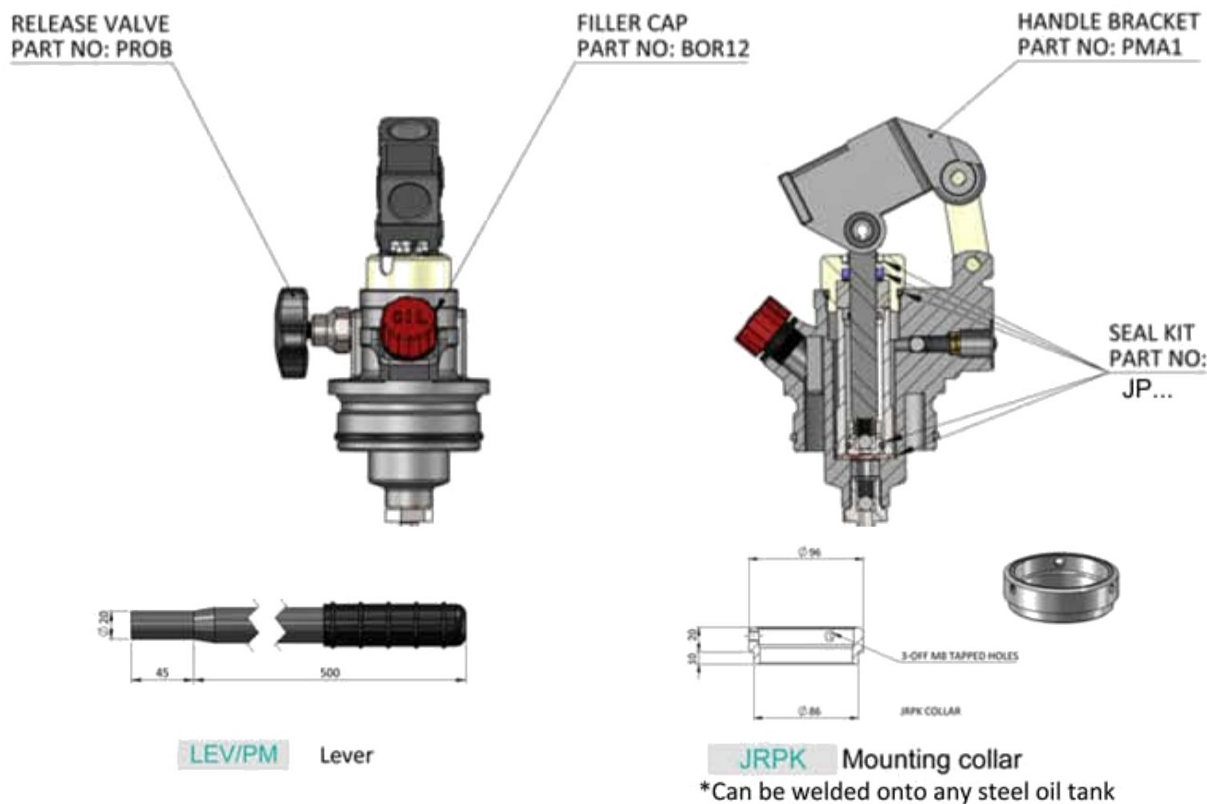


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C & C HYDRAULICS — HAND PUMPS — SECTION 8

Spare Parts & Accessories

Common spares for the standard hand pump range

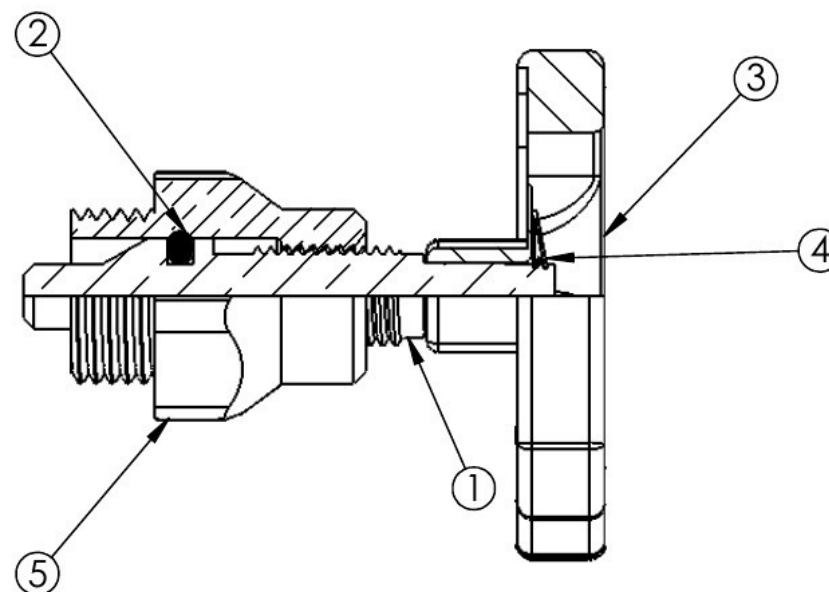
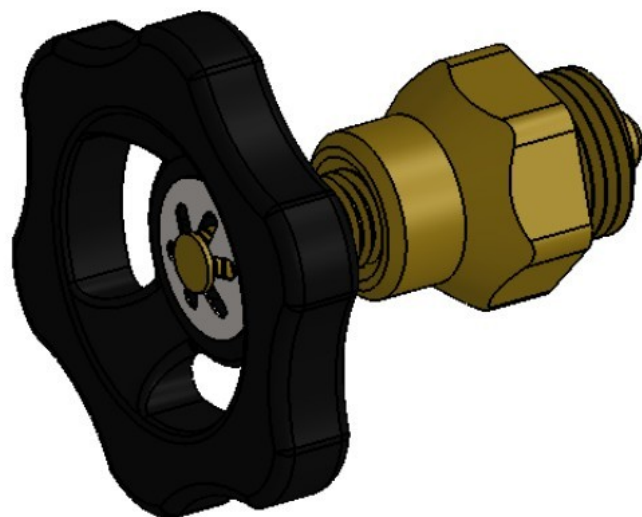


Part No	Description	Notes
PROB	Release valve	Returns oil to tank when opened – see drawing on the next page
BOR12	Filler / breather cap	Red cap on pump head
PMA1	Handle bracket	Lever socket on pump head
JP..	Seal kit	Quote piston size, e.g. JP16 for Ø16 pumps
LEV/PM	Lever, 500 mm	Ø20 × 45 mm spigot, rubber grip
LEV-495	Lever assembly, 495 mm overall	Ø25 tube, Ø20 × 45 mm spigot, LEV-PM grip, black cataphoresis
JRPK	Mounting collar	Ø96 mm, 3 × M8 tapped holes – can be welded onto any steel oil tank
KITFPRP	Hybrid tank mounting collar	Mounts steel-tank pump heads onto plastic tanks or a flat surface – see section 2



Release Valve PROB

Replacement release valve assembly for standard hand pumps · drawing ref 17_005_00_SA



Item	Part No	Description
1	17_005_01	Release shaft
2	17_005_02	O-ring
3	17_005_03	Knob
4	—	Washer
5	17_005_04	Release case



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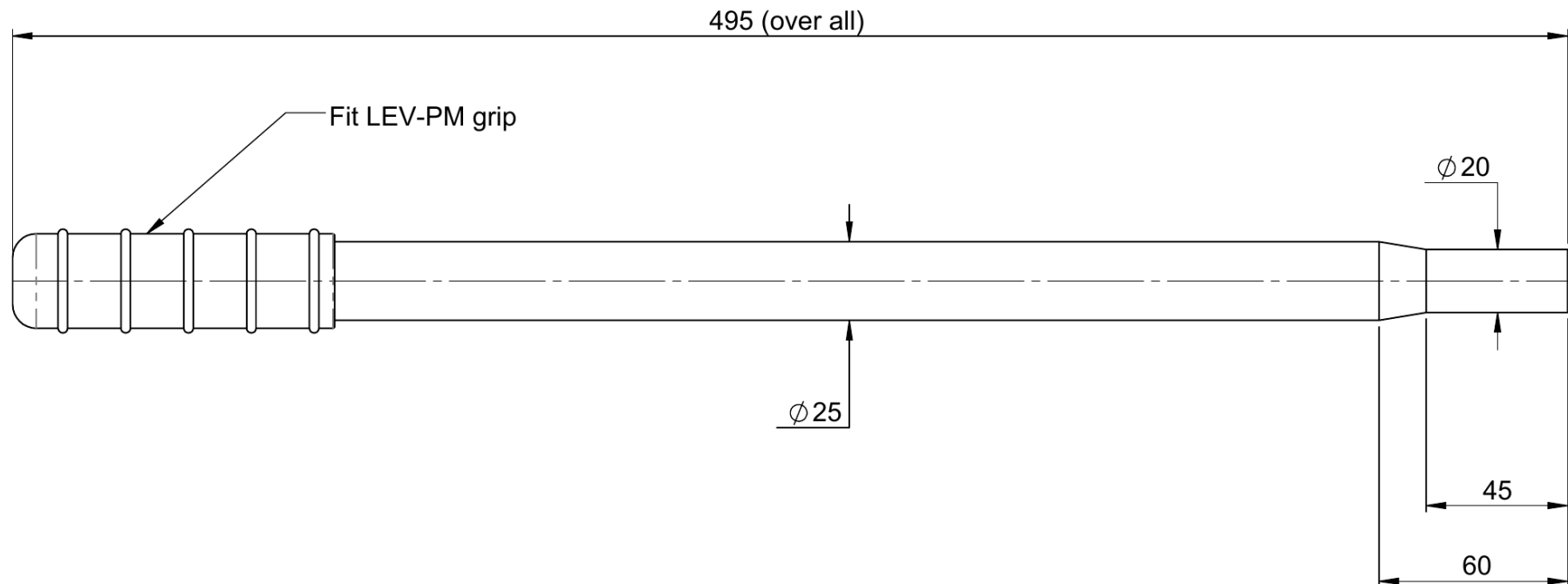
HAND PUMPS & OIL TANKS

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C & C HYDRAULICS — HAND PUMPS — SECTION 8

Lever Assembly LEV-495

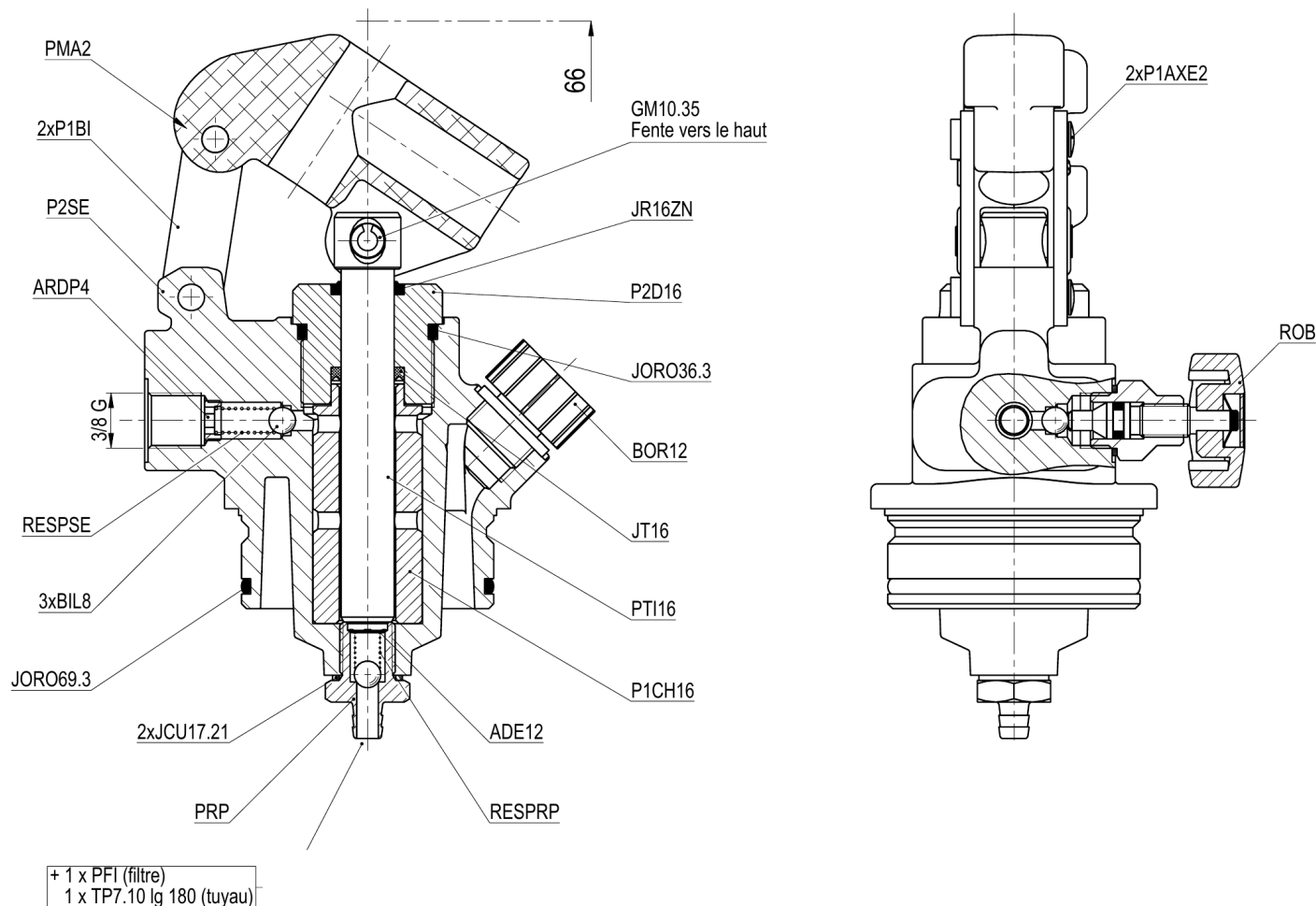
495 mm overall · $\varnothing 25$ mm steel tube · $\varnothing 20 \times 45$ mm spigot · fits LEV-PM grip · black cataphoresis finish





Spare Parts Identification – P16S1

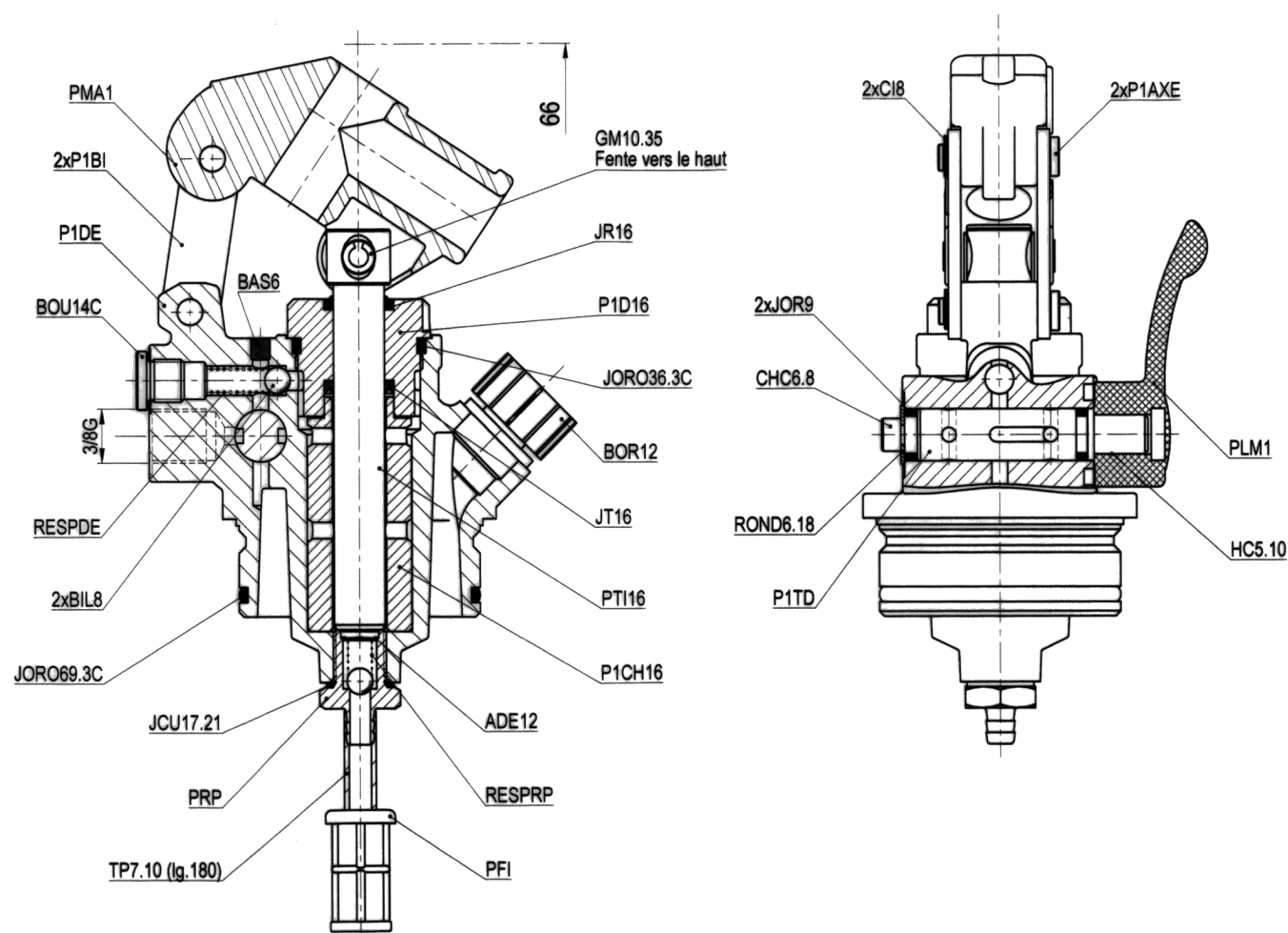
Single acting Ø16 hand pump · sectional view with component references · seal kit JP16 · 2.78 kg





Spare Parts Identification – P16D1

Double acting Ø16 hand pump · sectional view with component references





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C & C HYDRAULICS — HAND PUMPS — SECTION 9

Installation, Maintenance & Fault Finding

Hand pump and cylinder priming

1. Ensure all components are clean before installation.
2. Fill the reservoir with 32 cSt mineral hydraulic oil to about 85% of capacity (approx. 40 mm from the top) to allow for expansion and return turbulence.
3. Check the suction pipe is securely connected to the pump base, cut so it just reaches the bottom of the tank, with the strainer fitted.
4. Connect the pump to the cylinder port with suitable fittings and tighten firmly.
5. Close the release valve and gently operate the lever. Resistance is light while the circuit primes – the cylinder will then begin to move. Bleed the system before applying load.
6. To bleed, gently crack the fitting at the cylinder until the oil runs clear with no bubbles.
7. Cycle the cylinder to full stroke 2–3 times, releasing oil carefully back to tank, then re-check the oil level.

Maintenance

Interval	Check
Weekly	Visual inspection for oil leaks or damage
6 months	Check oil condition – no water ingress or contamination
12 months	Change the oil

Fault finding

Symptom	Cause / remedy
Cylinder movement spongy	Air in the system – operate off-load to purge, or crack the fitting at the cylinder until clear oil appears. Make sure the cylinder is not under load or trapped pressure.
Oil leaking from filler cap	Tank over-filled – remove some oil; or release valve opened too quickly causing turbulence on return.
No pressure / will not pump	Check the release knob is firmly closed; suction pipe not kinked, correct length and tight on its spigot; oil level correct.
Still no oil delivered	Remove the pump head and gently pump – feel for the effort change as oil is drawn. Tap the yellow zinc check-valve fitting at the pump base to free it, or unscrew it and clear any debris.

Need help? Call 01535 617880 or email sales@cchydraulics.co.uk with your pump part number.