PV411A

Druck four-in-one hand pump

Features

- Hydraulic pressures 0 to 700 bar (0 to 10,000 psi)
- Pneumatic pressures to 60 bar (900 psi)
- Vacuum to -0.95 bar (-28.5 in Hg)
- Adjustable over pressure protection
- Low pressure fine control

The PV411A (4 in 1) is a high quality field proven pressure and vacuum hand pump providing functionality, which has never been seen before in a hand held pressure source. This remarkable product replaces four conventional hand pumps and offers the following additional features:

- Unique vacuum priming function removes trapped air during hydraulic operation
- High pressure generation is accomplished with the volume adjuster, eliminating the physical effort associated with conventional hand pumps
- Pressure/vacuum selector valve also provides exceptional fine control pressure relief in both pneumatic and hydraulic modes
- Tamper proof adjustable overpressure protection valve which can be set to relieve pressures from 20 bar to 700 bar (300 to 10,000 psi)
- Removable hydraulic reservoir which can be disconnected from the pump without draining the fluid
- Reservoir safety feature with spring loaded top cover vents if inadvertently pressurized above 8 psi
- Hydraulic mode designed to operate with distilled water and/or high viscosity mineral oil
- Built-in stroke adjuster controls the pressure/vacuum generated per stroke
- 240° swivel head for optimum viewing of reference indicators
- Internal moving parts are PTFE anodized for reduced friction and wear
- Rugged and lightweight design with comfortable hand grip

The PV411A is the ideal field tool for applying test and calibration pressures to sensors, gauges, switches, indicators and recorders. It is also a low cost pressure source for workshops and laboratories. This wide capability removes the need to carry several hand pumps.

Vaccum

Applying vacuum to absolute, negative gauge and differential field instruments is no longer a problem. With just a few strokes, the PV411A generates up to 95% vacuum -0.95 bar (-28.5 in Hg)

Low Pressure (Pneumatic)

For sensitive low pressure applications, the PV411A, the stroke restrictor varies the pressure generated and prevents accidental overpressure.

Medium Pressure (Pneumatic)

The PV411A generates pressure up to 60 bar (900 psi), making it ideal for a wide range of calibration and testing applications.

High Pressure (Hydraulic)

The PV411A solves the problems of priming hydraulic systems; eliminating airlocks and fluid leakage. This is achieved with a unique vacuum priming facility. The volume adjuster is used to quickly and accurately generate pressure up to 700 bar (10,000 psi).

Hydraulic Pressure Media: Any fluid compatible with stainless steel, nitrile, PTFE, nylon, polypropylene, acrylic., anodized aluminum, delrin and polyurethane.

De-mineralised water or low viscosity mineral oil is recommended. The hydraulic and pneumatic systems are common and therefore residual fluid could remain within the system.

PV411A specifications

General

Pressure ranges

- Pneumatic: 0 to 60 bar (0 to 900 psi)
- Hydraulic: 0 to 700 bar (0 to 10,000 psi)
- Vacuum to -0.95 bar (-28.5 in Hg)

Hydraulic media

Designed for operation with distilled water (no alcohol), mineral oil equal to 40 wt.

For combined hydraulic and pneumatic operations it is recommended to use distilled water during hydraulic operation.

Materials

Stainless steel, anodized aluminum, Nitrile rubber, acrylic, PTFE, polyurethane, delrin, polypropylene and nylon

Pressure connections

1/4 in NPT female or 1/4 in BSP female

Reservoir connection

1/4 BSP female

Reservoir volume

100 cc

Optional large volume reservoir

200 cc

Total weight

2.5 lb (1.1 Kg)

Dimensions (l x w x d)

260 x 135 x 95 mm (10.2 in x 5.3 in x 3.7 in)

P/N PV411-104-HP-1-XXX hand pump kit with DPI 104 digital test gauge (gauge pressure range to be selected when ordering).

Accessories information

P/N PV411-100 Transit Case - Size 36 cm x 34 cm x 13 cm

P/N PV411-105 High Pressure Flex Hose 50 cm (0.5m)

- Hose-Flex 1/4" BSP (female) to 1/4" BSP (female)

With a set of adaptors:

- 1/4" BSP (male) to 1/4" BSP (male)
- 1/4" BSP (male) to 1/8" BSP (male)
- 1/4" BSP (male) to 1/8" NPT (male)

P/N PV411-106 High Pressure Flex Hose 150 cm (1.5m)

- Hose-Flex 1/4" BSP (female) to 1/4" BSP (female)

With a set of adaptors:

- 1/4" BSP (male) to 1/4" BSP (male)
- 1/4" BSP (male) to 1/8" BSP (male)
- 1/4" BSP (male) to 1/8" NPT (male)

P/N PV411-107 High Pressure Flex Hose Kit - 200 cm (2.0m)

- Hose-Flex 1/4" BSP (female) to 1/4" BSP (female)

With a set of adaptors:

- 1/4" BSP (male) to 1/4" BSP (male)
- 1/4" BSP (male) to 1/8" BSP (male)
- 1/4" BSP (male) to 1/8" NPT (male)

P/N PV411-110 Set of BSP Test Point Adaptors

- 1/4" BSP (male) to 1/4" BSP (male)
- 1/4" BSP (male) to 1/8 BSP (female)
- 1/4" BSP (male) to 3/8 BSP (female)
- 1/4" BSP (male) to 1/2 BSP (female)
- 1/4" BSP (male) to 1/4" BSP (female) swivel

P/N PV411-115 100cc Hydraulic Reservoir

P/N PV411-116 200cc Hydraulic Reservoir

P/N PV411-120 Set of NPT Test Point Adaptors

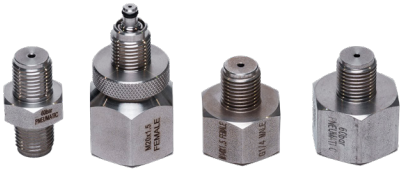
A set of stainless steel NPT test point adaptors:

- 1/4" BSP (male) to 1/4" NPT (female) swivel
- 1/4" BSP (male) to 1/8", 3/8", 1/4" and 1/2" NPT (female)
- 1/4" BSP (male) to 1/4" BSP (male)
- 1/4" BSP (male) to 1/4" NPT (male)

P/N PV411-125 Set of Metric Test Point Adaptors

A set of stainless steel metric test point adaptors:

- 1/4" BSP (male) to M20 (female) swivel
- 1/4" BSP (male) to M20 (female)
- 1/4" BSP (male) to M14 (female)
- 1/4" BSP (male) to 1/4" BSP (male)



P/N PV411-144 Swivel Adaptor 1/4 BSP

P/N PV411-145 Swivel Adaptor 1/4 NPT

P/N PV411-148 Tube Connector & Cylinder Top Kit

Ordering information for PV411A

P/N PV411A Multi Function Pressure Generator hand pump - Hand pump with BSP connections

P/N PV411A-20 Multi-Function Pressure Generator hand pump - Hand pump with NPT connections and 100 cc hydraulic reservoir

P/N PV411A-P Pneumatic Test Kit - BSP

Hand pump with BSP connections, in a transit case (with space for gauge). Includes flexible hose terminated in 1/4 BSP female, seals for hose and the following test point adaptors:

- 2x 1/4" BSP (Male) to 1/4" BSP (male)
- 1/4" BSP (male) to 1/8" BSP (male)
- 1/4" BSP (male) to 1/8" BSP (female)
- 1/4" BSP (male) to 3/8 BSP (female)
- 1/4" BSP (male) to 1/2 BSP (female)
- 1/4" BSP (female) swivel adaptor
- 1/4" BSP (male) to 1/8" NPT (male)

P/N PV411A-HP Pneumatic and Hydraulic Test Kit - BSP

Hand pump with BSP connections in a transit case, High Pressure Flex Hose 50 cm (0.5m), seals for hose, 100 cc hydraulic reservoir and the following test point adaptors:

- 2x 1/4" BSP (Male) to 1/4" BSP (male)
- 1/4" BSP (male) to 1/8" BSP (male)
- 1/4" BSP (male) to 1/8" BSP (female)
- 1/4" BSP (male) to 3/8 BSP (female)
- 1/4" BSP (male) to 1/2 BSP (female)
- 1/4" BSP (female) swivel adaptor
- 1/4" BSP (male) to 1/8" NPT (male)

P/N PV411AHA Hydraulic Hand Pump & Accessory Kit - NPT

Hand pump with NPT connections in a transit case, 100 cm (1m) 1/4 BSP hose, **P/N PV411-115** 100 cc hydraulic reservoir and the following test point adaptors:

- 2x 1/4" BSP (male) to 1/4" NPT (male)
- 1/4" BSP (male) to 1/4" NPT (female)
- 1/4" BSP (male) to 1/8" NPT (male)
- 1/4" BSP (male) to 1/8" NPT (female)
- 1/4 NPT (male) to 1/8 NPT (female)

Use this table to order "PV411-104" (Pump supplied in Transit case with relevant adaptor kit, hoses, PRV and DPI104)

Pump model

PV411 Multi Function Pressure Generator hand pump (Pump supplied in Transit case with relevant adaptor kit, hose, seals and DPI104/104S

104 Model Type

-104 DPI104 Safe Area Gauge

-104S DPI104-IS Hazardous Area Gauge

HP: Hydraulic/Pneumatic

Fitting

-1 BSP

-2 NPT

Pressure range	Gauge	Absolute
7bar (100 psi)	**10G**	**10A**
20 bar (300 psi)	**13G**	**13A**
70 bar (1000 psi)	**16G**	**16A**
200 bar (3000 psi)	**18S**	
350 bar (5000 psi)	**20S**	
700 bar (10,000 psi)	**22S**	

configuration dependable

PV411- 104- HP- 1- 10A (Typical model number)

Options

UKAS Calibration

We also offer UKAS accredited calibrations on the DPI104 Series, please advise at the time of order placement if required.

Accessories

Please state any accessories required as separate items when placing order

Part number	Description
PV411-100	Transit Case - Size 36 cm x 34 cm x 13 cm
PV411-105	High Pressure Flex Hose - 50cm (0.5m) Long
PV411-106	High Pressure Flex Hose - 150cm (1.5m) Long
PV411-107	High Pressure Flex Hose - 200cm (2m) Long
PV411-110	Set of BSP Test Point Adaptors
PV411-115	100cc Hydraulic Reservoir
PV411-116	200cc Hydraulic Reservoir
PV411-120	Set of NPT Test Point Adaptors
PV411-125	Set of Metric Test Point Adaptors
PV411-144	Swivel Adaptor 1/4 BSP
PV411-145	Swivel Adaptor 1/4 NPT
PV411-148	Tube Connector & Cylinder Top Kit

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