

DRUM AND CONTAINER PUMPS



PDF brochure

JESSBERGER®
pumps and systems

INTRODUCTION

Manual hand pumps

are always a useful and cost effective alternative to conventional electric or air operated drum pumps when only small quantities of media have to be transferred out of canisters or drums or if the customer would use the drum pump only occasionally or rarely.

Depending on the medium different pump tube materials and gaskets are available. In principle the hand pump can be divided into four groups: for chemicals such as acids, alkalis and detergents, for mineral oil products, for flammable liquids such as gasoline or solvents and for food. The maximum viscosity of the pumped fluids for the hand pumps is 1.000 mPas.

Most hand pumps have a drum adapter of 2" (partially available with the optional accessory) and can therefore be screwed in all 60 and 200 liter Steel drums. For plastics drums and canisters various thread adapters for compensation are available.

Electric or air operated laboratory pumps

are an economical and safe solution for the filling and transferring of small quantities of neutral or aggressive media and thin fluid food out of canisters, drums or containers.

The laboratory pumps consist of a light, handy and powerful electric motor or air operated motor and a pump tube suitable for the application that is available in different materials, pump tube diameters and pump tube lengths. In combination with the universal motor JP-140 the maximum density of the media is 1,3 and the maximum viscosity 400 mPas.

Because of their lightweight and simplest operation, the laboratory pumps are used everywhere where the transferring of small quantities of media is part of the daily business. They have proven themselves in addition to the industry also in laboratories or pharmacies.

Electric or air operated drum and container pumps

by JESSBERGER are lightweight, handy and very powerful devices for an economical and safe filling and transferring of thin fluid to middle viscous media, neutral or aggressive, non-flammable or flammable substances out of drums and containers.

Our drum pumps can be used transportable or stationary for emptying drums and containers, in plant engineering or in filling processes and are designed for intermittent, short-time operation. The sophisticated, technically clear construction ensures an efficient and safe use.

Drum and container pumps consist of a high-performance, internally or externally ventilated universal motor, which is also obtainable in an explosion-proof version and a pump tube that is suitable for the application. The pump tubes of drum pumps are procurable in Polypropylene (for aggressive media as cleaning agents, acids and alkalis, up to 50 °C),

PVDF (for highly aggressive media or when the medium temperature is between 50 and 90 °C), Aluminium (for mineral oil products up to 90°C) or Stainless steel 316Ti (for flammable liquids such as gasoline or solvents or thin fluid food up to 90°C; with rotor made of Stainless steel up to 120°C). Different tube lengths, mixing tubes for simultaneously mixing and pumping, sealless versions or Stainless steel versions with mechanical seal or with function of complete drum emptying can be obtained.

With the universal motor JP-280, the maximum density of the media is 1.9 and the maximum viscosity is 1.000 mPas.

As drives, universal motors and air operated motors are available.

► Laboratory and drum pumps in different versions



PUMP TUBES

Pump tubes made of Polypropylene (PP)

are suitable for neutral, aggressive and hardly combustible liquids. They are used specifically for pumping aggressive chemicals such as acids, alkalies or detergents.

Drive shaft: Stainless steel 316Ti or Hastelloy 2.4610

Media temperature: max. 50 °C

Media: Formic acid (50%), ammonia, boric acid, distilled water, liquid fertilizers, ferric-II and III-chloride, acetic acid (80%), photo developers, fruit acids, potassium hydroxide, copper chloride, lactic acid, sodium hydroxide, phosphoric acid, hydrochloric acid, sulfuric acid (up to 90%), hydrogen peroxide, citric acid and many other media.

Pump tubes made of Polyvinylidenfluorid (PVDF)

are especially suitable for highly aggressive liquids such as concentrated acids.

Drive shaft: Hastelloy 2.4610

Media temperature: max. 90 °C

Media: Hydrobromic acid, perchloric acid, chromic acid, hydrofluoric acid, sodium hypochlorite, nitric acid and sulfuric acid.

Also all media that are listed at the pump tubes made of Polypropylene can be handled, with the exception of strong alkalies.

Pump tubes made of Aluminium (ALU)

are suitable for neutral and hardly combustible liquids. With these pump tubes particularly mineral oil products up to a maximum viscosity of 1.000 mPas will be transferred.

Drive shaft: Stainless steel 316Ti

Media temperature: max. 90 °C

Media: Drilling emulsions, diesel, liquid wax, liquid soap, gear oils (up to 1.000 mPas), heating oil, hydraulic oils, machine oils, mineral oils and motor oils.

Pump tubes made of Stainless steel 316Ti

are used for all neutral, lightly aggressive liquids such as diluted acids, alkalies or detergents and thin fluid food. In addition the pump tubes provide a special safety for conveying or transferring flammable liquids of different hazard classes (up to temperature class 4) in the Ex-zone 0 and when pumping low viscous neutral or lightly aggressive media in Ex-zones 1 and 2.

Drive shaft: Stainless steel 316Ti

Media temperature: max. 90 °C (with PTFE rotor), max. 120 °C (with rotor made of Stainless steel full material).

Media: Acetone, alcohol, ammonia, gasoline, flammable solvents, potassium hydroxide, sodium hydroxide nitrocellulose lacquers, perchlorethylene, phosphoric acid, sulfuric acid (up to 7.5% and over 90%), toluene, trichlorethylene.

In addition the Stainless steel pump tubes are suitable for pumping thin fluid food such as fruit juices, milk, edible oils and for all media that are mentioned at Aluminium tubes.

We will be pleased to advise you regarding chemical resistance.

Please ask us.



LAB PUMPS/DRUM PUMPS



Electric laboratory pump
JP-120/JP-140 motor with
laboratory pump tube (25–32 mm)

Air operated laboratory pump
JP-Air 1 motor with
laboratory pump tube (25–32 mm)

Electric drum pump
JP-120/JP-140 motor with
pump tube (41 mm)

Description	Light, handy electric laboratory pump suitable for pumping small quantities of acids, alkalies and many other thin-fluid, non flammable media out of narrow-necked vessels.	Light, handy pneumatic laboratory pump suitable for pumping small quantities of acids, alkalies and many other thin-fluid, non flammable media out of narrow-necked vessels.	The light, handy and powerful drum pump is suitable for many thin-fluid liquids, neutral, aggressive and non flammable media.
MOTOR	Electric universal motor JP-120/JP-140	Air operated motor JP-Air 1	Electric universal motor JP-120/JP-140
Technical data	Protection type IP 24, double insulated, protection class II, overcurrent circuit switch with low voltage release, thermal protection, 5 m cable with plug. Speed control as an option.	With silencer and brass ball valve for dosing the compressed air. This controls the motor speed and varies the flow rate.	Protection type IP 24, double insulated, protection class II, overcurrent circuit switch with low voltage release, thermal protection, 5 m cable with plug. Speed control as an option.
Performance	JP-120: 250 W JP-140: 450 W	300 W at max. 6 bar operating pressure	JP-120: 250 W JP-140: 450 W
Voltage/Power	230/115 V - 50/60 Hz	Compressed air: Air consumption 10 l/sec. under load	230/115 V - 50/60 Hz
PUMP TUBE	Laboratory pump tube	Laboratory pump tube	Pump tube 41 mm
Material***	PP/PVDF/Stainless steel	PP/PVDF/Stainless steel (no ATEX)	PP/PVDF/Aluminium/Stainless steel
Pump tube lengths**	700/1.000/1.200 mm Special lengths on request	700/1.000/1.200 mm Special lengths on request	700–3.000 mm Plastic up to 2.000 mm Special lengths on request
Pump tube diameters	PP: 25, 28, 32 mm/PVDF: 32 mm/ Stainless steel: 28, 32 mm	PP: 25, 28, 32 mm/PVDF: 32 mm/ Stainless steel: 28, 32 mm	41 mm
Hose connection	PP 25: 1/2"/PP 28, 32: 3/4"/ PVDF 32: 3/4"/SS 28: 3/4"/SS 32: 1"	PP 25: 1/2"/PP 28, 32: 3/4"/ PVDF 32: 3/4"/SS 28: 3/4"/SS 32: 1"	1", alternatively 3/4" or 1 1/4"
Flow rate*	JP-120: Ø 25 mm up to 20 l/min (Rotor) Ø 28 mm up to 35 l/min (Rotor) Ø 32 mm up to 40 l/min (Rotor) JP-140: Ø 25 mm up to 23 l/min (Rotor) Ø 28 mm up to 40 l/min (Rotor) Ø 32 mm up to 49 l/min (Rotor)	JP-Air 1: Ø 25 mm up to 18 l/min (Rotor) Ø 28 mm up to 33 l/min (Rotor) Ø 32 mm up to 42 l/min (Rotor)	JP-120: up to 71 l/min (Rotor) up to 55 l/min (Impeller) JP-140: up to 87 l/min (Rotor) up to 70 l/min (Impeller)
Head*	JP-120: Ø 25 mm up to 5 m (Rotor) Ø 28 mm up to 7 m (Rotor) Ø 32 mm up to 7 m (Rotor) JP-140: Ø 25 mm up to 7 m (Rotor) Ø 28 mm up to 9 m (Rotor) Ø 32 mm up to 10 m (Rotor)	JP-Air 1: Ø 25 mm up to 5 m (Rotor) Ø 28 mm up to 6 m (Rotor) Ø 32 mm up to 8 m (Rotor)	JP-120: up to 7 m (Rotor) up to 16 m (Impeller) JP-140: up to 10 m (Rotor) up to 23 m (Impeller)
Viscosity/ Density*	JP-120: up to 200 mPas/1,2 JP-140: up to 400 mPas/1,3	JP-Air 1: up to 400 mPas/1,3	JP-120: up to 200 mPas/1,2 JP-140: up to 400 mPas/1,3

* All specified values are maximum values. Test media water 20 °C, 2 m horizontal discharge pipe 1", oval gear meter 1", measured values: ± 5%.

** Measured from the end at the pump foot to the middle of the discharge outlet.

*** Stainless steel 316Ti

DRUM PUMPS



Electric drum pump JP-160/JP-180/JP-280 motor with pump tube (41 mm)

Electric drum pump JP-164 (24 Volt, DC) motor with pump tube (41 mm)

Electric drum pump JP-360/JP-380 motor with pump tube (41 mm)

Description	Handy, robust drum pump with high performance for pumping thin-fluid (JP-160) to middle viscous, neutral, aggressive and non flammable media.	The drum pump is a compactly built, not explosion-proof pump that has proven itself for lightly viscous media as diesel and at fire brigades for foaming agents.	Robust drum pump with powerful motor for pumping thin-fluid to middle viscous, neutral, aggressive and non flammable media.
MOTOR	Electric universal motor JP-160/JP-180/JP-280	Electric universal motor JP-164	Electric universal motor JP-360/JP-380
Technical data	Protection type IP 24, double insulated, protection class II, overcurrent circuit switch with low voltage release, 5 m cable with plug. Speed control as an option.	Protection type IP 24, double insulated, protection class II, overload protection, 5 m cable with battery clamps.	Protection type IP 55, on/off switch, 5 m cable with plug. Speed control as an option.
Performance	JP-160: 460 W, JP-180: 640 W JP-280: 825 W	400 W	JP-360: 640 W JP-380: 825 W
Voltage/Power	JP-160: 230 V - 50/60 Hz JP-180, -280: 230/115 V - 50/60 Hz	24 V DC	230 V - 50/60 Hz
PUMP TUBE	Pump tube 41 mm	Pump tube 41 mm	Pump tube 41 mm
Material***	PP/PVDF/Aluminium/Stainless steel	PP/PVDF/Aluminium/Stainless steel	PP/PVDF/Aluminium/Stainless steel
Pump tube lengths**	700–3.000 mm Plastic up to 2.000 mm Special lengths on request	700–3.000 mm Plastic up to 2.000 mm Special lengths on request	700–3.000 mm Plastic up to 2.000 mm Special lengths on request
Pump tube diameter	41 mm	41 mm	41 mm
Hose connection	1", alternatively 3/4" or 1 1/4"	1", alternatively 3/4" or 1 1/4"	1", alternatively 3/4" or 1 1/4"
Flow rate*	JP-160: up to 82 l/min (Rotor) up to 61 l/min (Impeller) JP-180: up to 93 l/min (Rotor) up to 74 l/min (Impeller) JP-280: up to 112 l/min (Rotor) up to 83 l/min (Impeller)	JP-164: up to 66 l/min (Rotor) up to 55 l/min (Impeller)	JP-360: up to 93 l/min (Rotor) up to 74 l/min (Impeller) JP-380: up to 112 l/min (Rotor) up to 83 l/min (Impeller)
Head*	JP-160: up to 9 m (Rotor) up to 20 m (Impeller) JP-180: up to 11 m (Rotor) up to 26 m (Impeller) JP-280: up to 16 m (Rotor) up to 37 m (Impeller)	JP-164: up to 7,5 m (Rotor) up to 15 m (Impeller)	JP-360: up to 11 m (Rotor) up to 26 m (Impeller) JP-380: up to 16 m (Rotor) up to 37 m (Impeller)
Viscosity/ Density*	JP-160: up to 400 mPas/1,3 JP-180: up to 600 mPas/1,5 JP-280: up to 1.000 mPas/1,9	JP-164: up to 300 mPas/1,3	JP-360: up to 600 mPas/1,5 JP-380: up to 1.000 mPas/1,9



Rotor: Axial wheel for high flow rates at normal pressure.
Impeller: Radial wheel for high heads with reduced flow rate.

Available on request: Mixing pump tubes made of PP and Stainless steel,
Stainless steel pump tubes with mechanical seal or the option of complete drum emptying.

DRUM PUMPS/ATEX

AIR DRIVEN PUMPS



Air operated drum pump JP-Air 1 motor with pump tube (41 mm)

Air operated drum pump JP-Air 2 motor with pump tube (41 mm)

Air operated drum pump JP-Air 3 motor with pump tube (41 mm)

Description	Light and powerful air operated pump for different thin-fluid and middle viscous media. The air operated motors and Stainless steel pump tubes offer high safety at flammable media.	Light and powerful air operated pump for different thin-fluid and middle viscous media. The air operated motors and Stainless steel pump tubes offer high safety at flammable media.	Light and powerful air operated pump for different thin-fluid and middle viscous media. The air operated motors and Stainless steel pump tubes offer high safety at flammable media.
MOTOR	Air operated motor JP-Air 1	Air operated motor JP-Air 2	Air operated motor JP-Air 3
Technical data	Max. 6 bar operating pressure. Motor with silencer and brass ball valve for dosing the compressed air. This controls the motor speed and varies the flow rate. Ex: II 2G Ex h IIC T6 Gb X Ex: II 2D Ex h IIIC T80°C Db X	Max. 6 bar operating pressure. Motor with silencer. The speed can be regulated at customer site via a ball valve. At the motor handle is an on/off button that can be fixed through a rotational movement. Ex: II 2G Ex h IIC T6 Gb X Ex: II 2D Ex h IIIC T80°C Db X	Max. 6 bar operating pressure. Motor with Stainless steel housing and a ball valve at the air inlet for dosing the compressed air. This controls the motor speed and varies the flow rate. Ex: II 2G Ex h IIC T6 Gb X Ex: II 2D Ex h IIIC T80°C Db X
Performance	300 W at max. 6 bar operating pressure	600 W at max. 6 bar operating pressure	400 W at max. 6 bar operating pressure
Voltage/Power	Compressed air (air consumption 10 l/sec. under load)	Compressed air (air consumption 15 l/sec. under load)	Compressed air (air consumption 8 l/sec. under load)
PUMP TUBE	Pump tube 41 mm	Pump tube 41 mm	Pump tube 41 mm
Material***	Stainless steel, at PP, PVDF, ALU pump tubes no Ex protection	Stainless steel, at PP, PVDF, ALU pump tubes no Ex protection	Stainless steel, at PP, PVDF, ALU pump tubes no Ex protection
Pump tube lengths**	700–3.000 mm Special lengths on request	700–3.000 mm Special lengths on request	700–3.000 mm Special lengths on request
Pump tube diameter	41 mm	41 mm	41 mm
Hose connection	1", alternatively 3/4" or 1 1/4"	1", alternatively 3/4" or 1 1/4"	1", alternatively 3/4" or 1 1/4"
Flow rate*	up to 78 l/min (Rotor) up to 60 l/min (Impeller)	up to 80 l/min (Rotor) up to 66 l/min (Impeller)	up to 91 l/min (Rotor) up to 71 l/min (Impeller)
Head*	up to 9 m (Rotor) up to 13 m (Impeller)	up to 10 m (Rotor) up to 15 m (Impeller)	up to 13 m (Rotor) up to 25 m (Impeller)
Viscosity/Density*	up to 400 mPas/1,3	up to 600 mPas/1,5	up to 600 mPas/1,5

* All specified values are maximum values. Test media water 20 °C, 2 m horizontal discharge pipe 1", oval gear meter 1", measured values: ± 5%.

** Measured from the end at the pump foot to the middle of the discharge outlet.

*** Stainless steel 316Ti

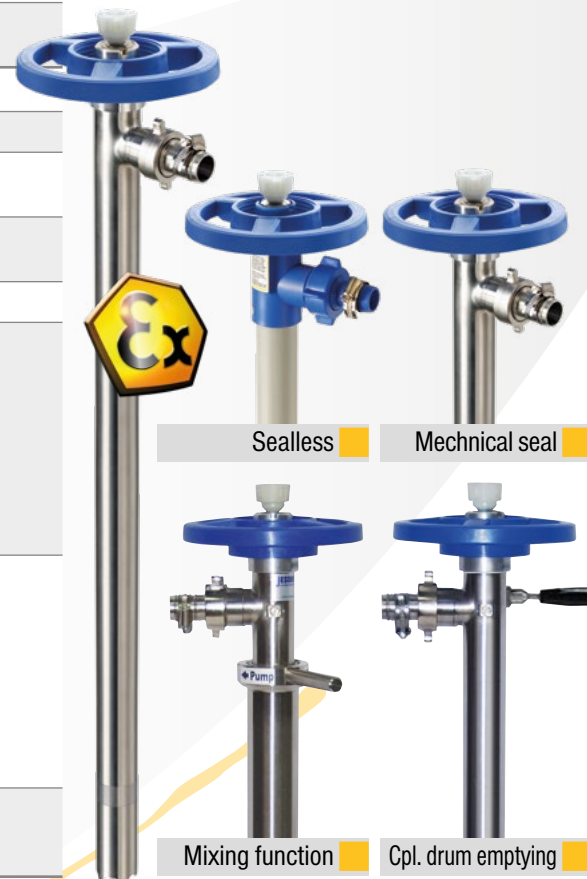
DRUM PUMPS/ATEX



**Electric drum pump
JP-400 motor with
pump tube (41 mm)**

**Electric drum pump
JP-440/JP-460/JP-480 motor with
pump tube (41 mm)**

Description	Robust, explosion-proof drum pump with powerful motor for transferring high flammable media and for use in potential explosive environments.	Robust, explosion-proof drum pump with powerful motor for transferring high flammable media and for use in potential explosive environments.
MOTOR	Electric universal motor JP-400	Electric universal motor JP-440/JP-460/JP-480
Technical data	Protection type II 2G Ex de IIA T6, IP 54, double insulated, protection class II, overload protection switch with integrated low voltage release, 5 m cable without plug . Optional with Ex-plug.	Protection type II 2G Ex db IIC T6 Gb, IP 55, with integrated low voltage release, 5 m cable without plug . Optional with Ex-plug.
Performance	550 W	JP-440: 400 W JP-460: 640 W JP-480: 825 W
Voltage/drive	230 V - 50/60 Hz	230 or 115 V - 50/60 Hz
PUMP TUBE	Pump tube 41 mm	Pump tube 41 mm
Material***	Stainless steel	Stainless steel
Pump tube lengths**	700–3.000 mm Special lengths on request	700–3.000 mm Special lengths on request
Pump tube diameter	41 mm	41 mm
Hose connection	1", alternatively 3/4" or 1 1/4"	1", alternatively 3/4" or 1 1/4"
Flow rate*	JP-400: up to 97 l/min (Rotor) up to 71 l/min (Impeller)	JP-440: up to 82 l/min (Rotor) up to 61 l/min (Impeller) JP-460: up to 93 l/min (Rotor) up to 74 l/min (Impeller) JP-480: up to 112 l/min (Rotor) up to 83 l/min (Impeller)
Head*	JP-400: up to 11 m (Rotor) up to 20 m (Impeller)	JP-440: up to 9 m (Rotor) up to 20 m (Impeller) JP-460: up to 11 m (Rotor) up to 26 m (Impeller) JP-480: up to 16 m (Rotor) up to 37 m (Impeller)
Viscosity/ Density*	JP-400: up to 600 mPas/1,5	JP-440: up to 400 mPas/1,3 JP-460: up to 600 mPas/1,5 JP-480: up to 1.000 mPas/1,9



Rotor: Axial wheel for high flow rates at normal pressure.
Impeller: Radial wheel for high heads with reduced flow rate.

Available on request: Mixing pump tubes made of PP and Stainless steel,
Stainless steel pump tubes with mechanical seal or the option of complete drum emptying.

ACCESSORIES

DRUM PUMPS

Adapters

- Drum adapters made of Polypropylene or Stainless steel (with male thread connection 2", suitable for 60 and 200 liter Steel drums).
- Emission proof drum adapters (with male thread connection 2", FKM-seals) prevent emission of harmful gases and vapours out of drums and containers. A vacuum in drum is equalized by a valve.
- Thread adapters for equalization of different threads at plastic canisters and plastic drums.
- Safety clamp made of tool steel for fixing a drum pump in open containers or drums.
- IBC adapters for openings with a diameter of 150 or 225 mm.

Hoses

- PVC hoses.
- Conductive universal chemical- and solvent hoses, made of EPDM.
- Conductive multi purpose chemical hoses, made of PE.
- PTFE hoses, mineral oil hoses, food hoses.
- Special hoses on request.
- Hose connectors.

Hand nozzles

- Nozzles made of Polypropylene, PVDF, Aluminium, Brass nickel plated or Stainless steel for a safe filling and dosing.
- Automatic nozzles for diesel, gasoline or urea.

Further accessories

- Strainers made of Polypropylene, PVDF and Stainless steel.
- Discharge arcs.
- Wall hanger.
- Bonding ground set (necessary if pumping flammable media).
- Flowmeter.
- Maintenance units for air motors and air driven pumps.

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