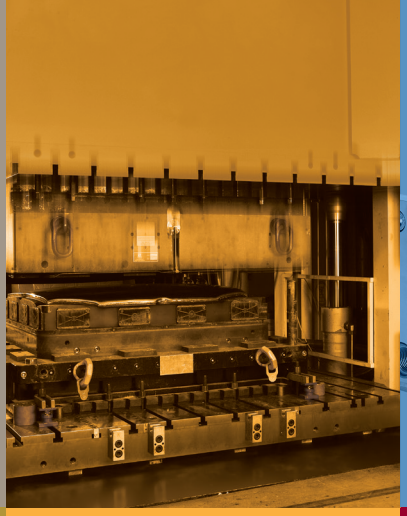
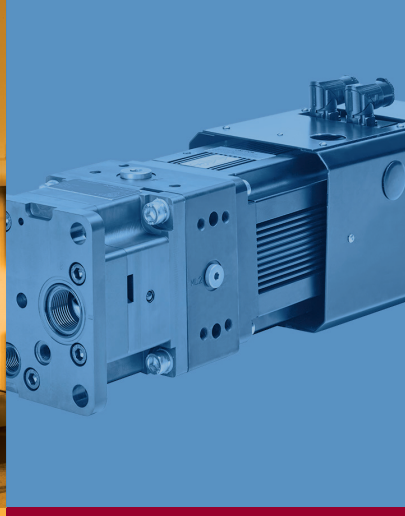
ELECTROHYDROSTATIC PUMP UNIT WITH INTERNAL GEAR PUMP (EPU-G)

Extension of the EPU Family for Smaller Displacement Volumes





The EPU-G, featuring a 4-quadrant internal gear pump and a high dynamic servomotor, targets applications with flow rates below 80 l/min and pressure levels up to 345 bar where high dynamic response and power-density are key.

Engineered for direct control via pump speed, the EPU-G is suitable for self-contained hydrostatic transmissions and can build maximum pressure at both pump ports. It is available in sizes 13 and 20 cm^3. Sizes 5 and 8 cm^3 will follow. This is adding smaller pump volumes to the existing EPU product range, which spans from 19 to 250 cm^3.

The EPU-G's variable speed and power-on-demand operation reduce noise emissions at partial load, significantly lowering energy consumption and operating costs. With high dynamics, low inertia and minimal pulsation, the EPU-G enhances overall machine performance. Its compact axial mounting interface allows direct manifold connection without additional piping, resulting in increased system stiffness, reducing actuator footprint, simplifying machine design, and reducing setup and maintenance time.

Addressing customer needs for ease of use, modularity, electrification, energy efficiency, robustness, serviceability and sustainability, the EPU-G's compact design and reduced complexity make it easy to handle and integrate without requiring extensive hydraulic expertise. Moog provides an end-to-end product offering and supports customers in the transition from conventional hydraulic or electromechanical to electrohydrostatic actuation from system design to implementation.

ADVANTAGES

- No min. speed: Allows 0 rpm, easy close-looped control for a limited period of time
- High dynamics: Increases machine performance, position/ pressure/ force control
- 4-quadrant operation: eliminates the need for a control valve; helps realize close-looped control
- Predefined range and combinations: Simplifies maintenance and spare parts storage
- Manifold interface enables direct mounting, less piping, compact actuator design
- High Efficiency: Ensures thermal stability, reduced losses

APPLICATIONS

- Applications with distinctive rapid and force movement / maximum utilization of drive power i.e. medium and large size presses
- Steam, water and gas turbines
- Solar panel adjustment
- Process flaps and valves
- Commercial and municipal vehicles
- Construction and mobile machinery
- Active motion/bogie control (e.g. tilt trains)
- Chipboard and paper presses
- Food industry

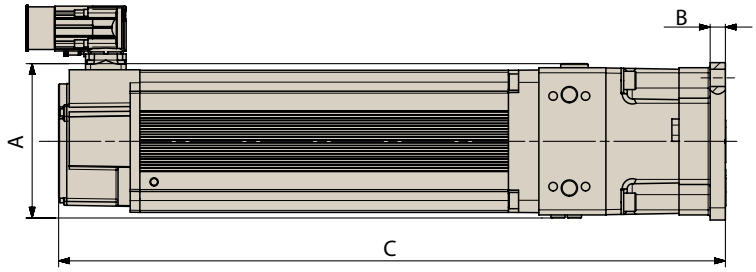
TECHNICAL DATA

Size	013	020
Pump version	Internal gear pump	
Maximum flow	57.2 l/min (15.1 gpm)	83 l/min (21.9 gpm)
Maximum pressure ports A and B	345 bar (5,004 psi)	
Maximum housing pressure [1]	Refer to speed/pressure curve	
Motor version	Brushless servo motor: natural, fan or liquid (oil/water) cooled	
Temperature range		
Ambient	-20 to +60 °C (-4 to 140 °F)	
Fluid	-20 to +80 °C (-4 to 176 °F) (leakage oil on port L)	
Seal material	FKM/NBR	
Operating fluid	Mineral oil according to DIN 51524, HFD and others upon request	
Viscosity [2]	• Allowable viscosity operational range from 12 to 100 mm^2/s (12 to 100 cSt). • Recommended hydraulic fluid viscosity class VG 46 to VG 100 according to ISO 3448. • Maximum viscosity 500 mm^2/s (500 cSt) during start-up with electric motor at 1,800 rpm.	
System filtration	• NAS 1638, class 9 • ISO 4406 class 19/17/14; obtained with filter fineness of β20 = 75	
Installation position	Any	
Installation note	Load holding up to 15% of the duty cycle and a maximum cycle time of 1 minute.	

1) For more information see EPU catalog

2) For more information see EPU user manual

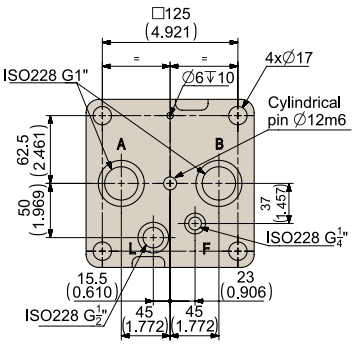
DIMENSIONS [3]



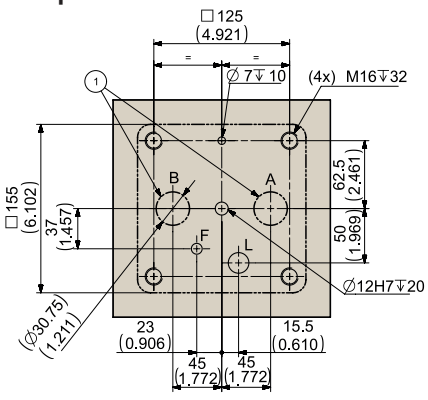
Size	A [mm (in)]	B [mm (in)]	C [mm (in)]
13 cm^3	152 (5.98) to 207 (8.15)	15 (0.591)	549 (21.60) to 716 (28.21)
20 cm^3	152 (5.98) to 218 (8.58)	15 (0.591)	524 (20.64) to 843 (33.19)

[3] Dimensions depending on size and servo motor type. For detailed information see catalog.

Mounting Pattern



Pump Front View



(1) Place holes inside marked circle

Port	d
A+B	15 to 26 mm
F	10 mm
L	19 mm

Moog has offices around the world. For more information or the office nearest you, contact us online.

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Learn more about the Moog EPU-G:

EPU-G
KEM/Rev. -, October 2024, CDL68480-en