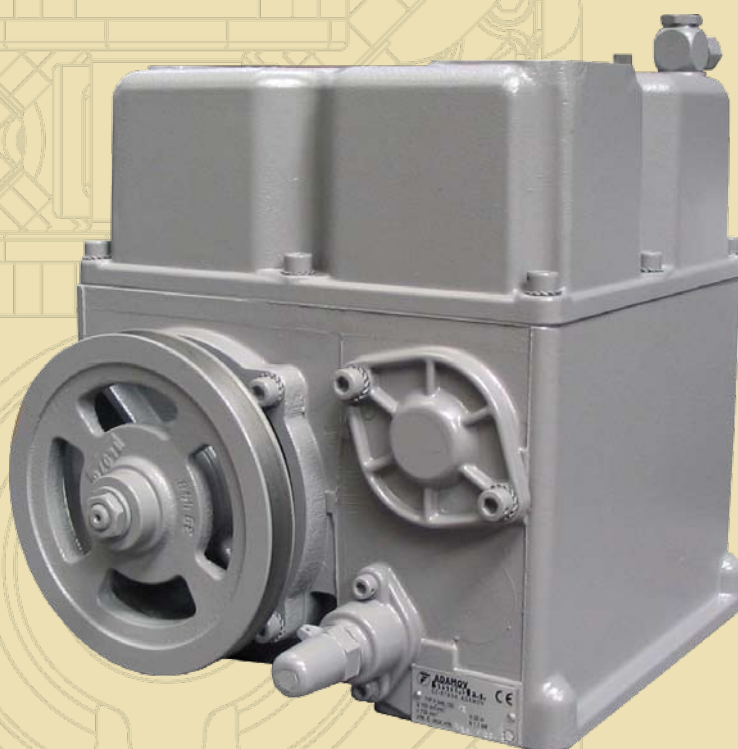


# ADAST

## pumping monoblock

- The pumping monoblocks are determined especially for fuel dispensers used in the filling stations for dispensing of liquid fuels in the tanks of motor vehicles.
- The pumping fuel can be all types of petrol, diesel oil, bio diesel (FAME – B10 till B100), kerosine etc.
- In the designs with special surface conditioning they are determined for pumping fuels with high volume of bioethanol – E10 to E100.
- It is possible to equip the pumping monoblock with a temperature sensor for connection with the system ATC.
- From the safety point of view the pumping monoblocks are designed to be installed in the ambient with the danger of explosion ZONE 1 –  $\text{Ex} \text{II} 2\text{G IIA T3}$  in accordance with EN 60079-10 and EN 13463-1.



P 640.50, P 641.50, P 640.100, P 641.100

### Construction

The pumping monoblock is a compact unit, whose basic carrying element is the monoblock body. It is a compact case made as a chill casting from aluminium alloy containing spaces for filtration, integration of volumetric slide-vane pump, centrifugal air separator, pressure relief valve (bypass), control and return valves and ventilation chamber and header with float valve. All these elements fulfil their specific functions and they are mutually connected through interface channels.

Volumetric slide-vane pump

is characterized by reliable requested flow rate, very good suction ability and high operating life

Centrifugal separator

ensures high effectivity of separation of evolved gases from fuel and air in case of untightness in the suction system. Until the flow rates of 60 l/min ensures 100% separation, at flow rates of 60 – 100 l/min it fulfils the requirements of separation at least 30% of sucked air in accordance with the regulation of international metrological recommendation OIML R 117-1 Edition 2007 (E).

Pressure relief valve (bypass)

protects the pump and other parts of the hydraulic system against damage caused by air pressure build-up during the closure of the pumped fuel output. It also protects the pump electromotor against overloading.

Regulation control and return valves

serves for automatic regulation of the pumped liquid output depending on its pressure, hydraulic impact damping and prevention of liquid loss from the hydraulic system during stopping of pumping.

### Type definition

P 640.50, P 640.100 – input flange in the perspective on the belt pulley from side wall

P 641.50, P 641.100 – input flange in the perspective on the belt pulley from back side

### Functional requirements for the pumping

Max. kinematic viscosity of the fuel

till  $21 \text{ mm}^2 \cdot \text{s}^{-1}$  (cSt)

Max. suction height (manometric)

–45 kPa

Min. inner diameter of suction piping

min. DN 40 – for the pumping monoblocks P 640.50, P 641.50  
min. DN 50 – for the pumping monoblocks P 640.100, P 641.100

Max. distance from the underground storage tank

35 m – for pumping of petrol, biofuels (E10 till E100)  
45 m – for pumping of diesel oil, bio diesel and kerosine (B10 till B100)

### Technical parameters

#### Type of pumping monoblock

**P 640.50**

**P 641.50**

**P 640.100, P 641.100**

Head of delivery H (m)

16

16

20

Flow rate Q (l/min)

50

65

100

at max. kinemat. viscosity till  $5 \text{ mm}^2 \cdot \text{s}^{-1}$  (cSt)

Operating pressure P (kPa)

180

220

250

Nominal rpm of pump ( $1 \cdot \text{min}^{-1}$ )

470

560

700

Running direction

clockwise

Needed power of electromotor (kW)

0,5

0,75

1,1

Kind of pumping liquid

petrol, diesel oil, kerosine, bio fuel E10 till E100, bio diesel B10 till B100

Maximum suction ability (kPa)

–85 for diesel oil, kerosine etc.

–55 for petrols

21,5

Weight (kg)

–40 to +60

Operating ambient temp. (°C)

–40 to +50

Operating temp. of the fuel (°C)