

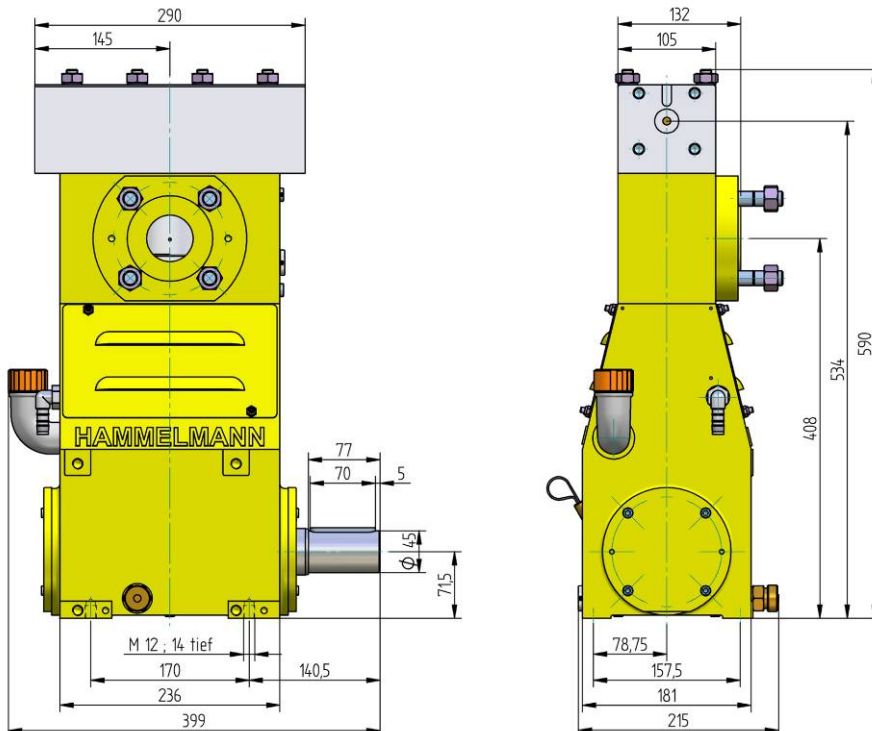
# HDP 10 High Pressure Pump Series

Hammelmann process pumps are built to operate at continuous maximum duty. Just compare the crank shaft speed, average plunger speed and power rating.

## High Pressure Pump

Weight: 94 kg

Energy efficient →



## Features

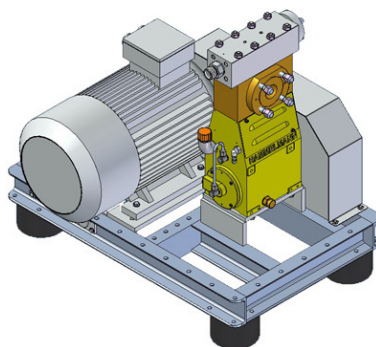
- Power ratings up to 11 kW
- Vertical 3 cylinder design

## Quality and reliability

- Crank section calculation by 'Finite element method' ensures long working life under continuous load
- Splash lubricated crank section
- Bellows form hermetic seal between the suction chamber and crank section
- Stainless steel or bronze suction chamber
- Solid ceramic or tungsten carbide plungers
- Stainless steel pump head free of alternating stress
- Choice of performance and pumped medium specific seal and pump head assemblies
- Flow control achieved with variable speed gear or frequency converter
- Flow turndown ratio 1:10

## Stationary unit with electric motor

- Length: 1000 mm
- Width: 752 mm
- Height: 890 mm
- Weight: approx. 370 kg at 11 kW



Main dimensions without accessories such as suction line, pressure regulator etc. All shown as right side drive. Detailed dimensional drawings and weights available on request.

# HDP 10 series, technical data

## Performance parameters

| HDP | Q<br>[l/min] | Required power rating [kW] |      |      | D    | r.p.m.         |                |
|-----|--------------|----------------------------|------|------|------|----------------|----------------|
|     |              | 5,5                        | 7,5  | 11   |      | n <sub>1</sub> | n <sub>2</sub> |
|     |              | Operating pressure [bar]   |      |      |      |                |                |
| 14  | 2,2          | 1100                       | 1510 | 2200 | 8    | 1500/1800/2150 | 625            |
|     | 2,7          | 920                        | 1260 | 1850 |      |                | 750            |
|     | 3,2          | 770                        | 1050 | 1540 |      |                | 900            |
|     | 3,5          | 710                        | 970  | 1400 | 10   | 1500/1800/2150 | 625            |
|     | 4,2          | 600                        | 810  | 1180 |      |                | 750            |
| 5,1 | 500          | 670                        | 1000 | 900  |      |                |                |
| 13  | 3,5          | 710                        | 970  | 1400 | 10   | 1500/1800/2150 | 625            |
|     | 4,2          | 600                        | 810  | 1180 |      |                | 750            |
|     | 5,1          | 500                        | 670  | 1000 |      |                | 900            |
|     | 5,8          | 500                        | 670  | 1000 | 12   | 1500/1800/2150 | 625            |
|     | 6,9          | 410                        | 560  | 820  |      |                | 750            |
| 8,3 | 340          | 470                        | 680  | 900  |      |                |                |
| 12  | 9            | 320                        | 430  | 630  | 15   | 1500/1800/2150 | 625            |
|     | 11           | 260                        | 360  | 530  |      |                | 750            |
|     | 12           | 230                        | 320  | 460  | 17,5 |                | 625            |
|     | 15           | 200                        | 260  | 400  |      |                | 750            |
|     | 16           | 180                        | 240  | 350  | 20   |                | 625            |
|     | 20           | 150                        | 200  | 300  |      |                | 750            |
|     | 25           | 110                        | 150  | 230  | 25   |                | 625            |
|     | 30           | 100                        | 130  | 200  |      |                | 750            |
|     | 37           | 80                         | 110  | 160  | 30   |                | 625            |
|     | 45           | 70                         | 100  | 130  |      |                | 750            |
|     | 51           | 60                         | 80   | 120  | 35   |                | 625            |
|     | 62           | 50                         | 70   | 100  |      |                | 750            |
|     | 68           | 40                         | 60   | 100  | 40   |                | 625            |
|     | 81           | 40                         | 50   | 70   |      |                | 750            |
|     | 86           | 40                         | 50   | 70   | 45   |                | 625            |
| 103 | 30           | 40                         | 60   | 750  |      |                |                |

- Rod force: 11,7 kN
- Stroke: 30 mm
- Mean piston speed at n<sub>2</sub>

625 r.p.m. = 0,63 m/sec

750 r.p.m. = 0,75 m/sec

900 r.p.m. = 0,90 m/sec



Hammelmann plunger pumps convert 93 to 98 % of the shaft power to hydraulic energy.

### Conversion table

Rating 1 kW = 1.34 HP  
 Op. pressure 1 bar = 14.5 psi  
 Flow rate 1 l = 0.264 US gallon  
 1 l = 0.22 Imp. gallon

D = Piston/Plunger dia. [mm]

n<sub>1</sub> = Motor/Engine r.p.m.

n<sub>2</sub> = Crankshaft r.p.m.

| HDP | Seal*   | Sealing system                      |
|-----|---------|-------------------------------------|
| 14  | Dynamic | Tungsten carbide plunger & bushing  |
|     | Packing | Special ceramic plunger** / packing |
| 13  | Dynamic | Ceramic plunger / bronze bushing    |
|     | Packing | Ceramic plunger / packing           |
| 12  | Dynamic | Ceramic plunger / bronze bushing    |
|     | Packing | Ceramik plunger / packing           |

\* The dynamic high pressure sealing extends the advantages of the labyrinth design with further increased efficiency.

\*\* Special ceramic plungers up to max. 2500 bar

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