

OVERVIEW

PM45 is a variable displacement, axial piston pump, with swashplate system, for closed loop hydrostatic transmissions.

It provides a continuously variable flow rate between zero and maximum in forward and reverse direction. Flow rate is proportional to rotation speed and swashplate angle.

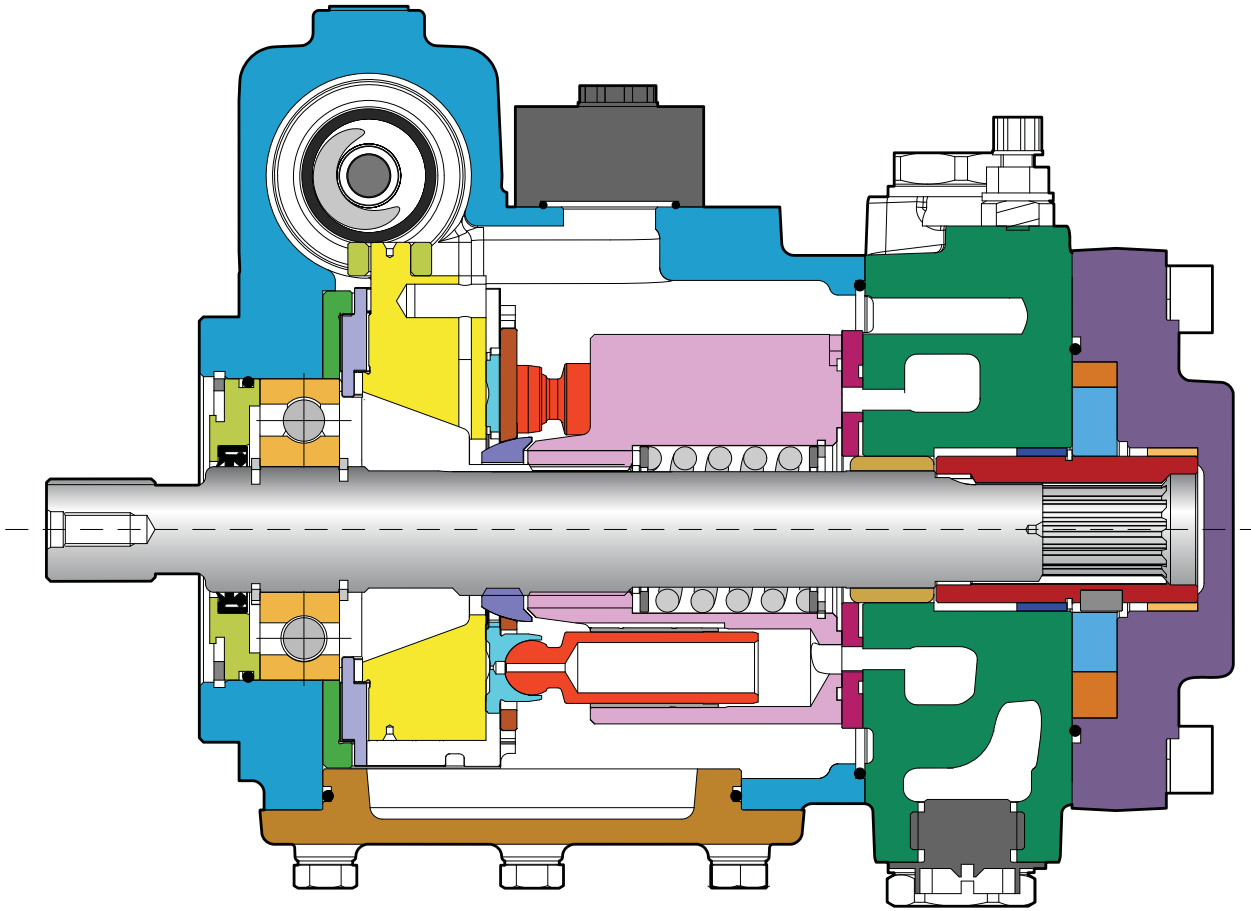
It can feature a charge pump to keep the circuit pressurised. This avoids risk of cavitations and ensures a good performance of the transmission.

It offers several types of servo control: servo mechanical, servo hydraulic, hydraulic automotive, electrical and electro-proportional.

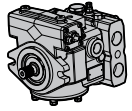
It is equipped with high pressure relief valves and can be delivered with auxiliary gear pumps.

It is available in single or tandem versions.

As options, PM45 can be featured with flushing valve, filter on charge pressure line and safety devices to ensure safe operation of the machine.



| | | PM45-35 | PM45-40 | PM45-45 | PM45-52 |
|--|---|---|----------------|----------------|------------------|
| Displacement | cm ³ /rev [in ³ /rev.] | 35 [2.14] | 40 [2.44] | 45 [2.75] | 52 [3.17] |
| Theoretical Flow at rated speed | L/min [GPM] | 126 [33.28] | 144 [38.04] | 162 [42.79] | 187,2 [49.45] |
| Rated speed | rpm | 3 600 | | | |
| Rated pressure | bar [PSI] | 250 [3 625] | | | |
| Max. Pressure | bar [PSI] | 350 [5 076] | | | |
| Mounting flange | | SAE B, SAE BB | | | |
| Controls | | Servo mechanical, servo hydraulic, hydraulic automotive, electrical, electro-proportional | | | |
| Mass | kg [lb] | 28 [61.7] with servo control A | | | |
| Rotation | | Clockwise or Counterclockwise | | | |



MODEL



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| Displacement cm^3/rev [in^3/rev] | |
|--|----|
| 35 [2.14] | 35 |
| 40 [2.44] | 40 |
| 45 [2.75] | 45 |
| 52 [3.17] | 52 |

2

| Mounting flange and shaft | |
|--|---------------|
| SAE B; splined shaft z =13, 16/32" D.P. | S3 |
| SAE BB; splined shaft z =15, 16/32" D.P. | S4 (Standard) |
| SAE B; key shaft \varnothing 25,38 mm [dia. 1.00 in] | C3 |

3

| Control | |
|---|-----|
| Mechanical servo control with feed back | A |
| Hydraulic servo control | S |
| Hydraulic servo control with feed back | T |
| Hydraulic automotive control 12V | D12 |
| Hydraulic automotive control 24V | D24 |
| Electrical on-off servo control with return spring without electrovalve | B00 |
| Electrical on-off servo control with return spring and electrovalve 12V | B12 |
| Electrical on-off servo control with return spring and electrovalve 24V | B24 |
| Electrical on-off servo control without electrovalve | C00 |
| Electrical on-off servo control with electrovalve 12V | C12 |
| Electrical on-off servo control with electrovalve 24V | C24 |
| Electro-proportional servo control 12V | P12 |
| Electro-proportional servo control 24V | P24 |
| Electro-proportional servo control with feed back 12V | Q12 |
| Electro-proportional servo control with feed back 24V | Q24 |

5

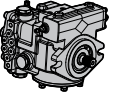
| High pressure relief valve setting | |
|------------------------------------|----|
| Operating pressure bar [PSI] | |
| Without valve (only check valve) | 00 |
| 150 [2 175] | 15 |
| 200 [2 900] | 20 |
| 250 [3 625] | 25 |
| 300 [4 351] | 30 |
| 350 [5 076] | 35 |

4

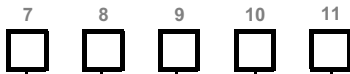
| Restrictor mm [in] | |
|--------------------------------|----|
| Without restrictor | 00 |
| \varnothing 0,6 [dia. 0.023] | 06 |
| \varnothing 0,7 [dia. 0.027] | 07 |
| \varnothing 0,8 [dia. 0.031] | 08 |
| \varnothing 0,9 [dia. 0.035] | 09 |
| \varnothing 1,0 [dia. 0.039] | 10 |
| \varnothing 1,2 [dia. 0.047] | 12 |

6

| Rotation | |
|-------------------|---|
| Clockwise | R |
| Counter clockwise | L |



CODE



7

| | |
|--|----|
| Charge relief valve setting bar [PSI] | |
| Without charge relief valve | 00 |
| 26 [377] | 26 |

8

| | |
|---|----|
| Charge pump displacement cm³/rev [in³/rev] | |
| Without charge pump | 00 |
| 11 [0.67] | 11 |
| 16,9 [1.03] | 17 |

9

| | |
|--------------------------------|---|
| Auxiliary mounting pad | |
| Without auxiliary mounting pad | S |
| SAE A flange; z = 9 | A |
| SAE A flange; z = 11 | E |
| SAE B flange; z = 13 | B |
| SAE BB flange; z = 15 | C |
| Tandem (without charge pump) | T |

10

| | |
|---|----|
| Gear pump cm³/rev [cu.in/rev] | |
| Without gear pump | 00 |
| 4,0 [0.24] | 04 |
| 6,0 [0.37] | 06 |
| 8,5 [0.52] | 08 |
| 11,0 [0.67] | 11 |
| SAE A flange (if digit 9 = A) | |
| 14 [0.85] | 14 |
| 16,5 [1.00] | 17 |
| 19,5 [1.19] | 20 |
| 22,5 [1.37] | 22 |
| 26 [1.59] | 26 |

11

| | |
|--|----|
| Options | |
| Without option | 00 |
| Roller bearing | CR |
| Filter on pressure line without clogging indicator | F0 |
| Filter on pressure line with clogging indicator | F2 |
| External connections for filter | F3 |
| SAE flange ports | FS |
| UNF threads ports | FU |
| Mechanical inching for control D | IC |
| Pressure cut-off valve | LP |
| Neutral position switch for control A | MI |
| Flushing valve | VS |



It is possible to combine several options. Consult your Hydraulic application engineer for more information.

Model Code

Technical specifications

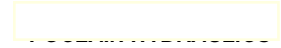
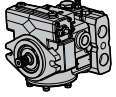
Operating Parameters

System design Parameters

Features

Controls

Options



Hydraulic automotive control



In relation to the input rotation rate, the pump swashplate positioning cylinder is actuated by the pressure of the automotive valve progressively positioning the swashplate and a 4/3 electro-hydraulic valve determine the direction. This provides a continuously variable pump displacement. The direction of the supplied flow is determined by which of the two solenoids is energized.

The pilot pressure increases proportionally to the rotation pump. A pump displacement increase corresponds to the higher pilot pressure.

In case the engine is overloaded, the rotation rate decreases and the pilot pressure is reduced causing a pump displacement reduction with a corresponding drop in absorbed power.

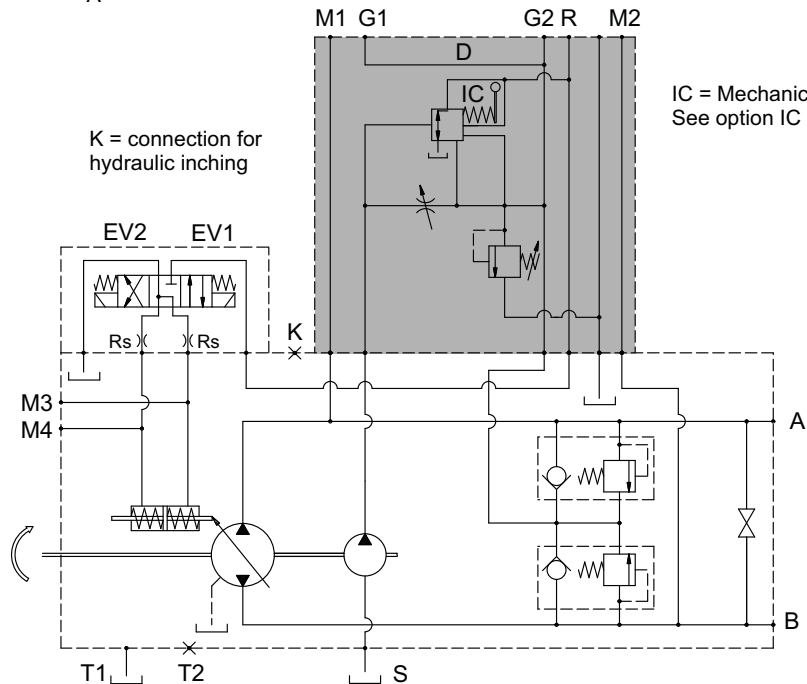
An "Inching" lever is available to reduce the pilot pressure independently of the pump rotation speed (See option IC page 41).

Supply voltage

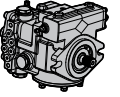
| | |
|-----|-----|
| 12V | D12 |
| 24V | D24 |

Flow rate determination

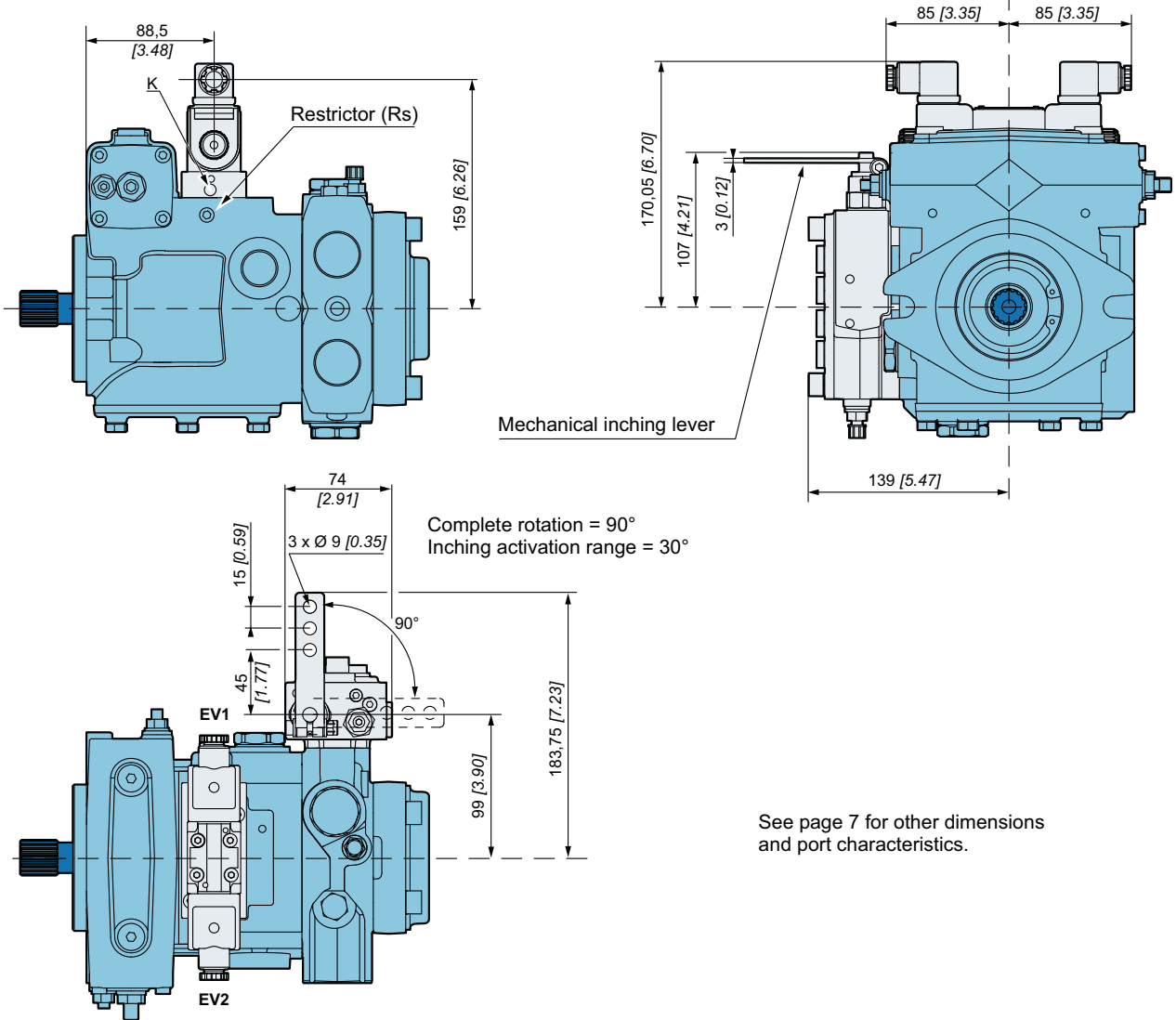
| Rotation | Pressure | Output | Input |
|-----------------------|----------|--------|-------|
| Clockwise (R) | EV1 | B | A |
| | EV2 | A | B |
| Counter clockwise (L) | EV1 | A | B |
| | EV2 | B | A |



IC = Mechanical inching. See option IC page 41.



Dimensions (with option IC Mechanical inching)



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