

Fixed Displacement piston motors Series M-MA-MSI



HYDRO LEDUC offers high quality materials and workmanship ; The design choices highlighted below ensure the remarkable reliability and long service life of LEDUC motors:

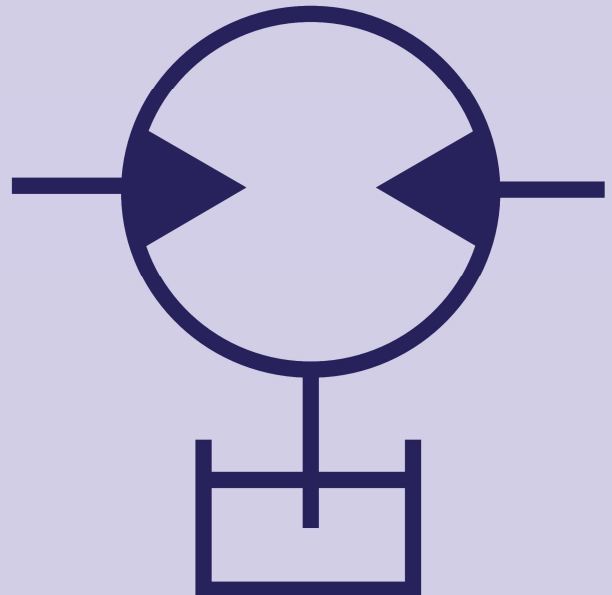
Choice of increased bearing capacity for longer service life;
Reinforced seals to withstand back pressure on motor drain return lines;
High pressure oil injection on piston heads: this reduces friction, heat and wear;

Piston heads engaged into barrel: no risk of piston / plate separation;
Design and manufactured with motor barrel and valve plate automatically aligned.
This guarantees long service life (because no radial mechanical stress);

7 piston design, ensuring excellent rotating smoothness and constant torque;
No gears between plate and rotating barrel yields reduced noise levels.

LEDUC Fixed displacement hydraulic piston motors:

- Models from 5 to 180 cc/rev
- M series
- MA series (Version SAE)
- Models from 28 to 125 cc/rev
- MSI series
- Models from 12 to 126 cc/rev
- MXP series





M Series motors

Characteristics of the M motors

| Motor model | Displacement (cc/rev) | Continuous max. speed (1) (rpm) | Intermittent max. speed (1) (rpm) | Max. flow absorbed (l/mn) | Torque (N.m/bar) | Torque at 350 bar (N.m) | Theoretical maximal power at 400 bar (kW) | Max. allowable pressure continuous / peak (bar) | Weight (kg) |
|-------------|-----------------------|---------------------------------|-----------------------------------|---------------------------|------------------|-------------------------|---|---|-------------|
| M 5_093840 | 5 | 8000 | 8800 | 40 | 0.08 | 28 | 26.6 | 400 / 450 | 4.4 |
| M 12 | 12 | 8000 | 8800 | 96 | 0.19 | 67 | 64 | 400 / 450 | 5.5 |
| M 18 | 18.0 | 8000 | 8800 | 144 | 0.29 | 100 | 96 | 400 / 450 | 5.5 |
| M 25 | 24.9 | 6300 | 6900 | 157 | 0.40 | 139 | 104.5 | 400 / 450 | 11.5 |
| M 28 | 27.7 | 6300 | 6900 | 175 | 0.44 | 154 | 116.3 | 400 / 450 | 11.5 |
| M 32 | 32.1 | 6300 | 6900 | 202 | 0.51 | 179 | 134.8 | 400 / 450 | 11.5 |
| M 41 | 41.1 | 5600 | 6200 | 230 | 0.65 | 229 | 153.4 | 400 / 450 | 11.5 |
| M 45 | 45.4 | 5000 | 5500 | 227 | 0.72 | 253 | 151.3 | 400 / 450 | 18 |
| M 50 | 50.3 | 5000 | 5500 | 252 | 0.80 | 280 | 167.6 | 400 / 450 | 18 |
| M 63 | 63 | 5000 | 5500 | 315 | 1.00 | 351 | 210 | 400 / 450 | 18 |
| M 80 | 80.4 | 4500 | 5000 | 362 | 1.28 | 448 | 241.2 | 400 / 450 | 23 |
| M 90 | 90 | 4500 | 5000 | 405 | 1.43 | 501 | 270 | 400 / 450 | 23 |
| M 108 | 108.3 | 4000 | 4400 | 433 | 1.72 | 603 | 288.8 | 400 / 450 | 23 |
| M 108 R (2) | 108.3 | 3400 | 4500 | 368 | 1.72 | 603 | 245.4 | 400 / 450 | 35 |
| M 125 | 125.4 | 3400 | 4500 | 426 | 2.00 | 699 | 284.2 | 400 / 450 | 35 |
| M 160 | 160 | 3600 | 4000 | 576 | 2.55 | 891 | 384 | 400 / 450 | 48.5 |
| M 180 | 180.6 | 3600 | 4000 | 650 | 2.87 | 1006 | 433.4 | 400 / 450 | 48.5 |

(1) For higher speeds, do not hesitate to contact us.

(2) The M 108 R engine has the dimensions of the M chassis 125.

MA Series motors

Characteristic Technical (SAE)

| Motor model | Displacement | | Continuous max. speed (1) (rpm) | Intermittent max. speed (1) (rpm) | Max. flow absorbed | | Torque | | Torque at 350 bar (5100 psi) | | Theoretical maximal power at 5800 psi 400 bar | | Max. allowable pressure continuous / peak | | Weight (kg) | |
|-------------|--------------|--------|---------------------------------|-----------------------------------|--------------------|------|------------|---------|------------------------------|------|---|-------|---|-----------|-------------|------|
| | cu.in/rev | cc/rev | | | gpm | l/mn | lbf.ft/psi | N.m/bar | lbf.ft | N.m | HP | kW | psi | bar | lbs | Kg |
| MA 10 | 0.62 | 10.2 | 8000 | 8800 | 21.6 | 82 | 0.0082 | 0.16 | 42 | 57 | 72.9 | 54.4 | 5800 / 6525 | 400 / 450 | 14.3 | 6.5 |
| MA 12 | 0.73 | 12.0 | 8000 | 8800 | 25.4 | 96 | 0.0097 | 0.19 | 49 | 67 | 85.7 | 64 | 5800 / 6525 | 400 / 450 | 14.3 | 6.5 |
| MA 18 | 1.10 | 18.0 | 8000 | 8800 | 38.0 | 144 | 0.0145 | 0.29 | 74 | 100 | 128.7 | 96 | 5800 / 6525 | 400 / 450 | 14.3 | 6.5 |
| MA 25 | 1.52 | 24.9 | 6300 | 6900 | 41.4 | 157 | 0.0201 | 0.40 | 102 | 139 | 140.1 | 104.5 | 5800 / 6525 | 400 / 450 | 25 | 11.5 |
| MA 32 | 1.96 | 32.1 | 6300 | 6900 | 53.4 | 202 | 0.0259 | 0.51 | 132 | 179 | 180.7 | 134.8 | 5800 / 6525 | 400 / 450 | 25 | 11.5 |
| MA 41 | 2.51 | 41.1 | 5600 | 6200 | 60.8 | 230 | 0.0331 | 0.65 | 169 | 229 | 205.6 | 153.4 | 5800 / 6525 | 400 / 450 | 25 | 11.5 |
| MA 45 | 2.77 | 45.4 | 5000 | 5500 | 60.0 | 227 | 0.0366 | 0.72 | 187 | 253 | 202.8 | 151.3 | 5800 / 6525 | 400 / 450 | 40 | 18 |
| MA 50 | 3.07 | 50.3 | 5000 | 5500 | 66.4 | 252 | 0.0405 | 0.80 | 207 | 280 | 224.7 | 167.6 | 5800 / 6525 | 400 / 450 | 40 | 18 |
| MA 63 | 3.84 | 63.0 | 5000 | 5500 | 83.2 | 315 | 0.0508 | 1.00 | 259 | 351 | 281.5 | 210 | 5800 / 6525 | 400 / 450 | 40 | 18 |
| MA 80 | 4.91 | 80.4 | 4500 | 5000 | 95.6 | 362 | 0.0648 | 1.28 | 330 | 448 | 323.3 | 241.2 | 5800 / 6525 | 400 / 450 | 51 | 23 |
| MA 90 | 5.49 | 90.0 | 4500 | 5000 | 107.0 | 405 | 0.0725 | 1.43 | 370 | 501 | 361.9 | 270 | 5800 / 6525 | 400 / 450 | 51 | 23 |
| MA 108R | 6.61 | 108.3 | 3400 | 4500 | 97.3 | 368 | 0.0872 | 1.72 | 445 | 603 | 329 | 245.4 | 5800 / 6525 | 400 / 450 | 77 | 35 |
| MA 125 | 7.65 | 125.4 | 3400 | 4500 | 112.6 | 426 | 0.1010 | 2.00 | 515 | 699 | 381 | 284.2 | 5800 / 6525 | 400 / 450 | 77 | 35 |
| MA 160 | 9.76 | 160.0 | 3600 | 4000 | 152.2 | 576 | 0.1289 | 2.55 | 657 | 891 | 514.7 | 384 | 5800 / 6525 | 400 / 450 | 107 | 48.5 |
| MA 180 | 11.02 | 180.6 | 3600 | 4000 | 171.8 | 650 | 0.1455 | 2.87 | 742 | 1006 | 581 | 433.4 | 5800 / 6525 | 400 / 450 | 107 | 48.5 |

(1) For higher speeds, do not hesitate to contact us.

Characteristic Technical

| Motor model | Displacement (cc/rev) | Continuous max. speed (1) (rpm) | Intermittent max. speed (1) (rpm) | Max. flow absorbed (l/mn) | Torque (N.m/bar) | Torque at 350 bar (N.m) | Max. allowable pressure continuous / peak (bar) | Weight (kg) |
|---------------|-----------------------|---------------------------------|-----------------------------------|---------------------------|------------------|-------------------------|---|-------------|
| MSI 28 | 27.7 | 6300 | 6900 | 175 | 0.44 | 154 | 400 / 450 | 11.5 |
| MSI 32 | 32.1 | 6300 | 6900 | 202 | 0.51 | 179 | 400 / 450 | 11.5 |
| MSI 41 | 41.1 | 5600 | 6200 | 230 | 0.65 | 229 | 400 / 450 | 11.5 |
| MSI 50 | 50.3 | 5000 | 5500 | 252 | 0.80 | 280 | 400 / 450 | 19 |
| MSI 63 | 63 | 5000 | 5500 | 315 | 1.00 | 351 | 400 / 450 | 19 |
| MSI 80 | 80.4 | 4500 | 5000 | 362 | 1.28 | 448 | 400 / 450 | 26 |
| MSI 90 | 90 | 4500 | 5000 | 405 | 1.43 | 501 | 400 / 450 | 26 |
| MSI 108 | 108.3 | 4000 | 4400 | 433 | 1.72 | 603 | 400 / 450 | 26 |
| MSI 108 R (2) | 108.3 | 3400 | 4500 | 368 | 1.72 | 603 | 400 / 450 | 33 |
| MSI 125 | 125.4 | 3400 | 4500 | 426 | 2.00 | 699 | 400 / 450 | 33 |

- 1) For higher speeds, do not hesitate to contact us.
 (2) The MSI 108 R has the chassis dimensions of the MA 125.

ATEX CERTIFICATION

LEDUC motors are certified ATEX

As standard, all LEDUC motors are classed in Group II category 2 D TX.

On request, motors may be supplied for Group II category 2G and Group II category D T4.

As all the motors must be delivered unpainted (risks due to static electricity), it is necessary to pay attention to the risks of corrosion.

>Explanation

Group II category 2 means it is possible to operate in an ATEX 1 zone (probable gas atmosphere) or ATEX 21 zone (probable dusty atmosphere).

G = May operate in a gas zone.

D = May operate in a dusty atmosphere.

TX = Maximum surface temperature

>Precautions regarding ATEX

It is necessary to check the following recommendations:

- The operating temperatures of the motors must be guaranteed by the end user.
- The machines on which our products are assembled should be ground-connected (static electricity).
- Check all parts connected to the motor for conformity with ATEX,

>Markings on motors

The marking of our product will be: Group II category 2GD c TX (where TX replaces T3 and T4).

Our products are TX registered (based on product surface temperature) and can therefore be certified T4 or T3 according to the following recommendations (hot area).

>Surface temperature

- T4 275°F (135°C) for fluid temperature " 158 °F (70°C).
- T3 392 °F (200°C) for fluid temperature " 230 °F (110°C).



IMPORTANT NOTE: ATEX certification does not apply to motors fitted with speed sensor, nor to the "drainless" motors.

Fixed Displacement piston motors Series MXP



The LEDUC hydraulic motors of the MXP series are designed with an axis fitted with an a Leduc piston motors are high-performance hydraulic motors and are small in size.

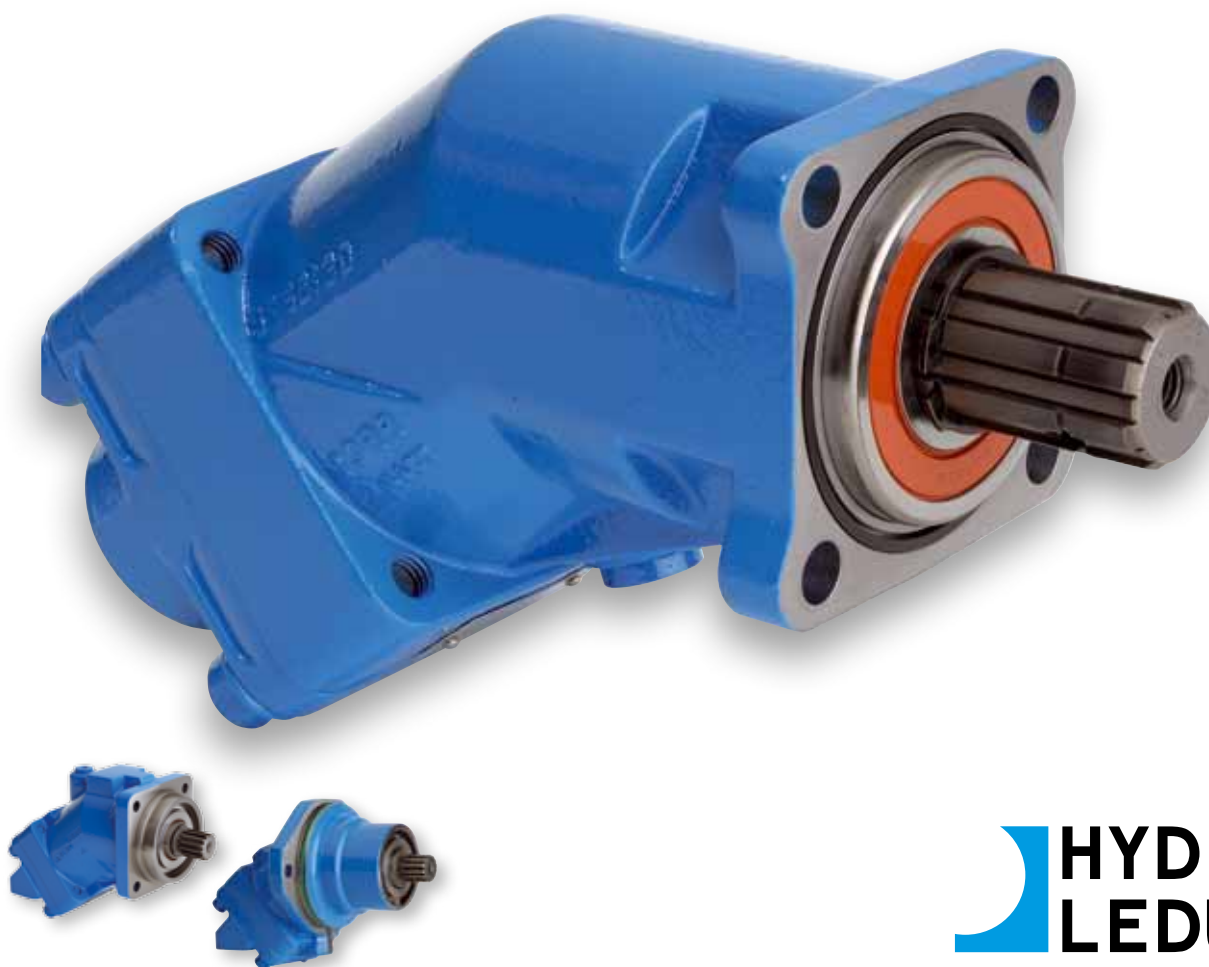
- total efficiency greater than 90% (guaranteed in most applications); -
- suitable for use at operating speeds between 50 and 8,800 rpm; - optimized weight and dimensions.

Available with displacements from 12cc to 126cc, MXP engines are designed for applications on trucks or construction-type equipment, where intensive use is intermittent.

For heavy duty applications, HYDRO LEDUC offers M and MSI series motors, documentation available on request.)

MXP motors are designed for use in closed or open circuit systems.

To ensure the best life of the motors, pay attention to follow the installation recommendations from SAMER srl.



 **HYDRO
LEDUC**



■ Characteristics of the MXP series motors
 The MXP series motors are designed for use on:
 - truck equipment;
 - construction equipment;
 - agricultural machinery;
 for intermittent service applications.
 These motors are designed with DIN flange.

| Motor model | Displacement (cc) | continuous max. speed ⁽¹⁾ (rpm) | Intermittent max. speed ⁽¹⁾ (rpm) | Max. flow absorbed (l/mn) | Torque bar (m.N/bar) | Torque at 350 bar (m.N) | Motor max./min. temperature* (°C) | Max. allowable pressure continuous / peak (bar) |
|---------------|-------------------|--|--|---------------------------|----------------------|-------------------------|-----------------------------------|---|
| MXP12-092965 | 12 | 8000 | 8800 | 96 | 0.19 | 66 | -25 / 110 | 400 / 450 |
| MXP18-092890 | 18 | 8000 | 8800 | 144 | 0.28 | 98 | -25 / 110 | 400 / 450 |
| MXP25-092895 | 25 | 6300 | 6900 | 158 | 0.4 | 140 | -25 / 110 | 400 / 450 |
| MXP32-092900 | 32 | 6300 | 6900 | 202 | 0.5 | 175 | -25 / 110 | 400 / 450 |
| MXP41-092905 | 41 | 5600 | 6200 | 230 | 0.65 | 227 | -25 / 110 | 400 / 450 |
| MXP50-092910 | 50.3 | 5000 | 5500 | 252 | 0.8 | 280 | -25 / 110 | 400 / 450 |
| MXP63-092915 | 63 | 5000 | 5500 | 315 | 1 | 350 | -25 / 110 | 400 / 450 |
| MXP80-092925 | 80.4 | 4500 | 5000 | 362 | 1.27 | 445 | -25 / 110 | 400 / 450 |
| MXP108-092930 | 108.3 | 4000 | 4400 | 435 | 1.7 | 595 | -25 / 110 | 400 / 450 |
| MXP126-092970 | 126 | 3400 | 4400 | 428 | 2.0 | 700 | -25 / 110 | 400 / 450 |

* for more extreme temperatures, do not hesitate to contact us.

(1) for higher speeds, do not hesitate to contact us.

For special fluids, do not hesitate to contact us.

acceptable forces applied to the crankshaft

Fr: radial force measured at the midpoint of the shaft length.

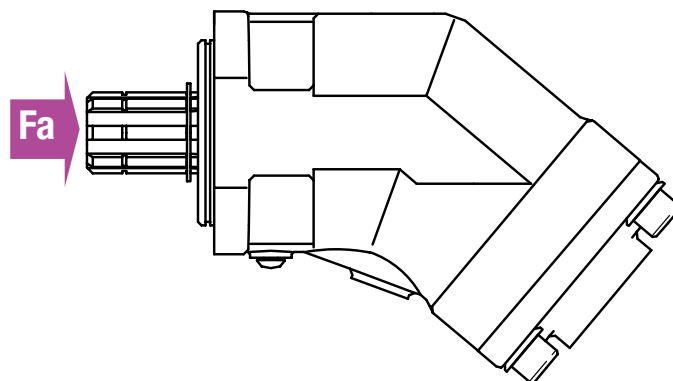
Avoid any radial or axial force on the shaft of MXP engines.

If this is not possible, please contact our technical office with the details of the application.

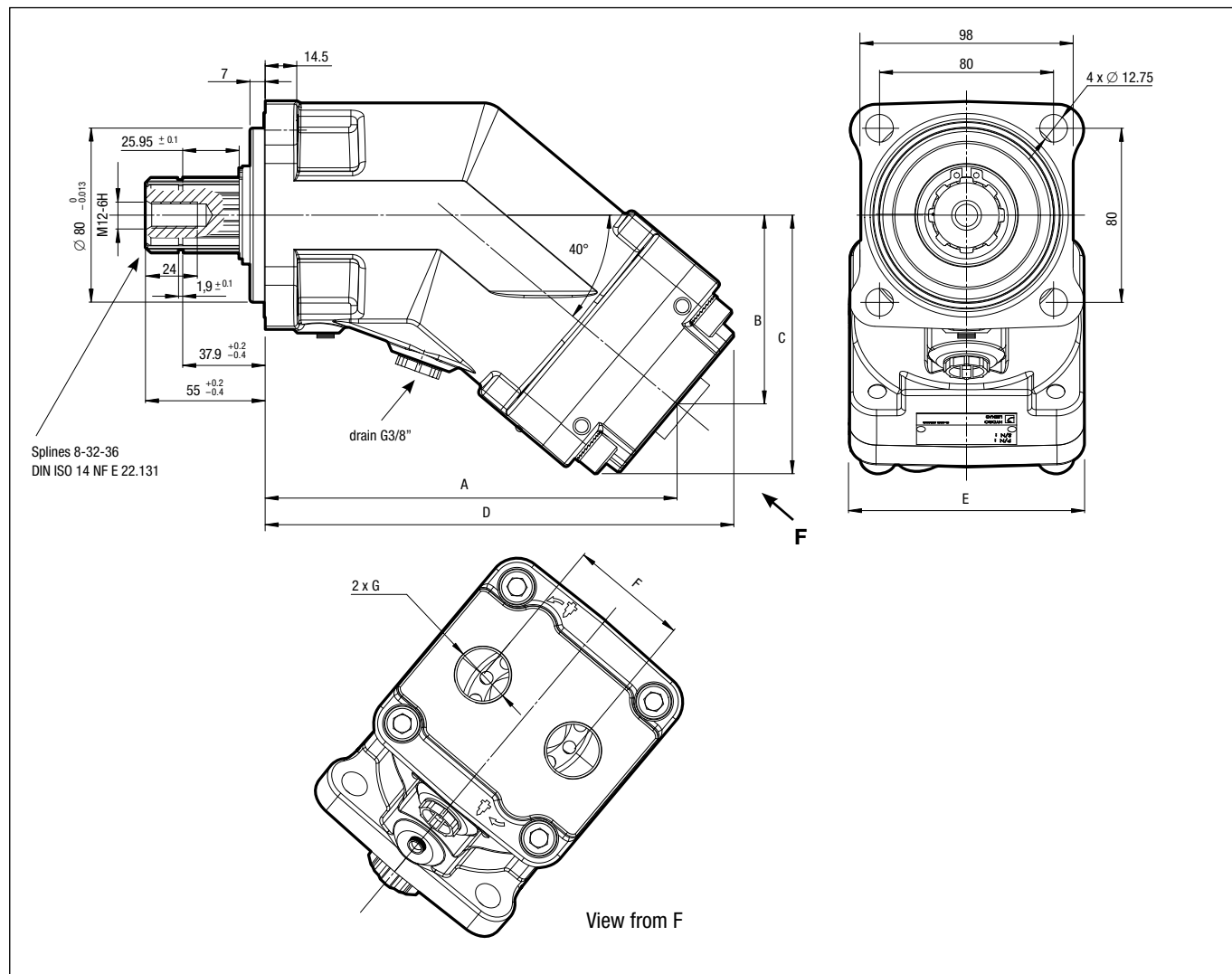
| Motor model | MXP 12 | MXP 18 | MXP 25 | MXP 32 | MXP 41 | MXP 50 | MXP 63 | MXP 80 | MXP 108 | MXP 126 |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| Fa (N/bar*) | 15 | 20 | 30 | 30 | 40 | 40 | 50 | 60 | 80 | 90 |

* differential pressure between A and B.

For other forces, do not hesitate to contact us.



Dimensions MXP Series



| Motor model | Dis. (cc) | A | B | C | D | E | F | G | weight (kg) |
|---------------|-----------|-------|--------|-------|-------|-------|----|--------|-------------|
| MXP12-092965 | 12 | 171.5 | 71.9 | 103.9 | 197.9 | 108.5 | 54 | G 3/4" | 9.3 |
| MXP18-092890 | 18 | 171.5 | 71.9 | 103.9 | 197.9 | 108.5 | 54 | G 3/4" | 9.3 |
| MXP25-092895 | 25 | 171.5 | 71.9 | 103.9 | 197.7 | 108.5 | 54 | G 3/4" | 9.3 |
| MXP32-092900 | 32 | 177.7 | 77 | 109.1 | 203.8 | 108.5 | 54 | G 3/4" | 10.3 |
| MXP41-092905 | 41 | 177.7 | 77 | 109.1 | 203.8 | 108.5 | 54 | G 3/4" | 10.3 |
| MXP50-092910 | 50,3 | 189.3 | 86.8 | 118.9 | 215.4 | 108.5 | 54 | G 3/4" | 11.5 |
| MXP63-092915 | 63 | 189.3 | 86.8 | 118.9 | 215.4 | 108.5 | 54 | G 3/4" | 11.5 |
| MXP80-092925 | 80,4 | 216.2 | 99.5 | 133.3 | 241.7 | 123.5 | 60 | G 1" | 14.5 |
| MXP108-092930 | 108,3 | 216.2 | 99.5 | 133.3 | 241.7 | 123.5 | 60 | G 1" | 14.5 |
| MXP126-092970 | 126 | 218.5 | 101.43 | 135.2 | 244 | 123.5 | 60 | G 1" | 14.5 |

SAMER services

- Design of systems with pumps and motors in closed and open circuits
- Sale of pumps and motors in closed and open circuits
- Installation and testing of pumps and motors in closed and open circuits
- Repair of pumps and motors in closed circuit and open circuit

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