

# Brass and stainless steel rotary vane pumps CO/MO 30-200 series

The Compact and Compact Plus series rotary vane pumps are the smallest series of the Rotoflow® line of positive displacement pumps. Capable of high performances despite the small size, the Compact and Compact Plus series is the choice when space is an issue.

## Technical features and manufacturing characteristics

The Compact series housing as well as the Compact Plus series which is equipped with ball bearings supporting the rotor, are available in brass or stainless steel AISI 303. Both are assembled with a stainless steel AISI 303 rotor, carbon graphite pumping chamber and NBR seals. The inlet and outlet ports are 3/8" GAS or NPT threaded. The pumps can be connected to direct coupling motors with a stainless steel clamp. Maximum operative temperature: 70 °C (158 F).

### Available upon request:

- Viton®/EPDM seals
- Built-in relief valve
- California AB 1953 compliant brass



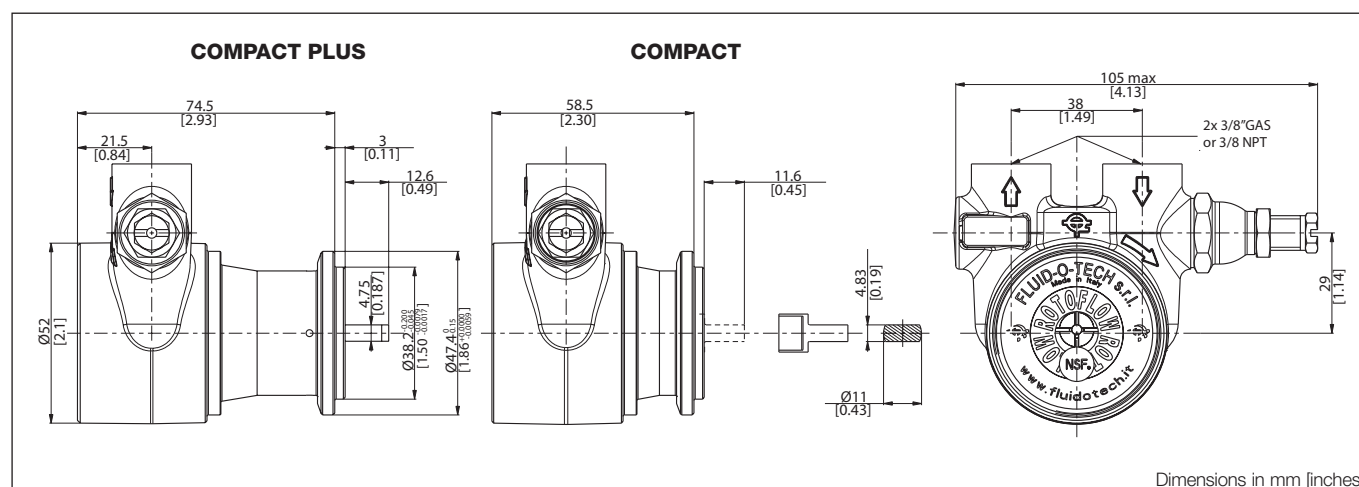
## MAIN APPLICATIONS

- Espresso coffee machines
- Beverage vending machines
- Post mix drink dispensers
- Water treatment
- Water dispenser
- Cooling systems



## TECHNICAL INFORMATION

|                       |                          |                     |                   |
|-----------------------|--------------------------|---------------------|-------------------|
| Pump housing material | Brass or stainless steel | Max static pressure | 20 bar/290 psi    |
| Pumping chamber       | Carbon graphite          | Pump weight         | CO 850 g (1.9 lb) |
| Ports                 | 3/8" GAS or NPT          |                     | MO 1 Kg (2.2 lb)  |
| Speed limit           | 1725 rpm                 |                     |                   |

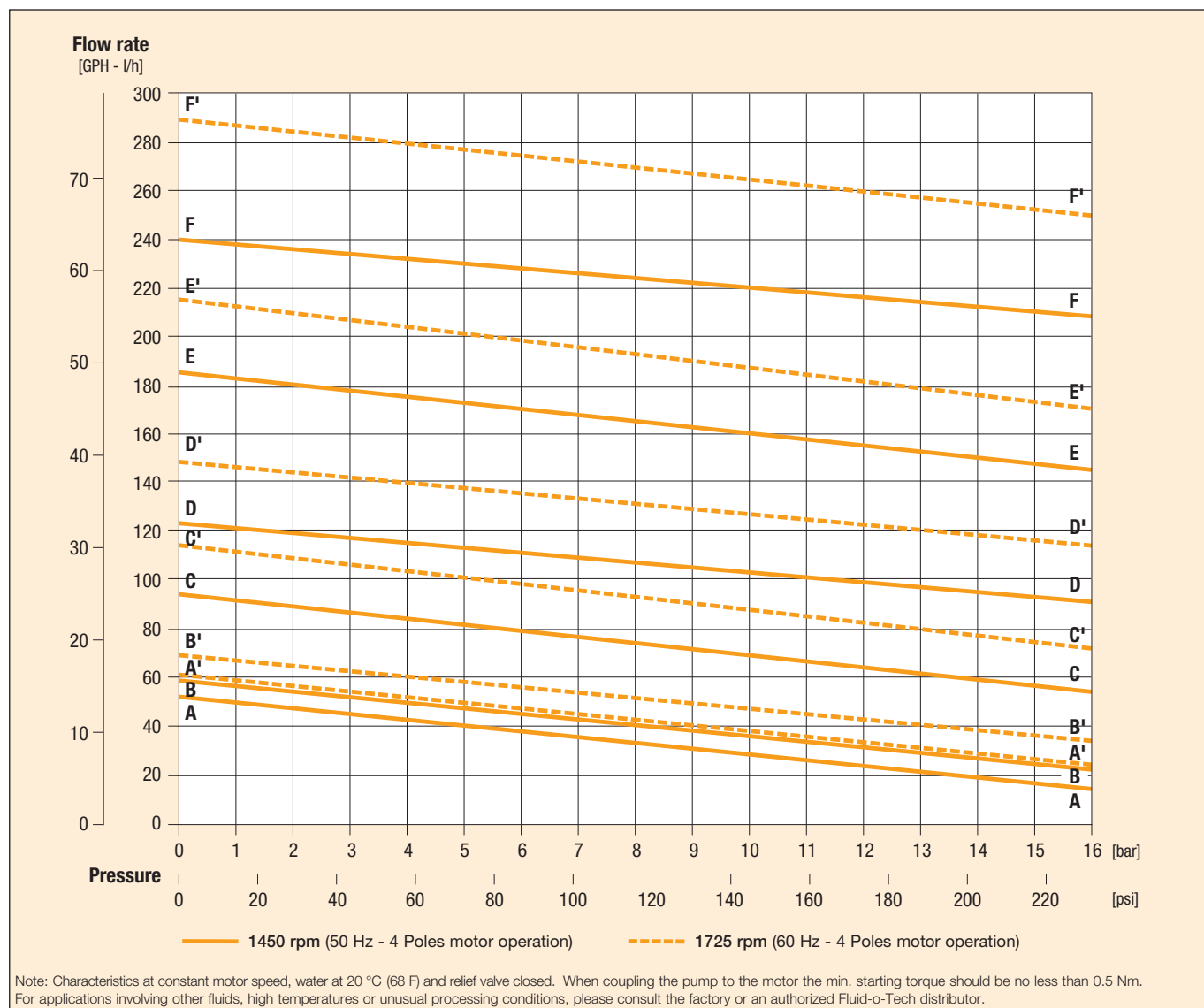


Dimensions in mm [inches]

## Brass and stainless steel rotary vane pumps CO/MO 30-200 series

| Model CO/CA/CW<br>(Compact) | 030 031 034                | 050 051 054                | 070 071 074                | 100 101 104                | 150 151 154                | 200 201 204                |
|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Figure                      | A-A (50 Hz); A'-A' (60 Hz) | B-B (50 Hz); B'-B' (60 Hz) | C-C (50 Hz); C'-C' (60 Hz) | D-D (50 Hz); D'-D' (60 Hz) | E-E (50 Hz); E'-E' (60 Hz) | F-F (50 Hz); F'-F' (60 Hz) |
| Relief valve                | NO STD BAL                 | NO STD BAL                 | NO STD BAL                 | NO STD BAL                 | NO STD BAL                 | NO STD BAL                 |

| Model MO/MA/MW<br>(Compact Plus) | 030 031 034                | 050 051 054                | 070 071 074                | 100 101 104                | 150 151 154                | 200 201 204                |
|----------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Figure                           | A-A (50 Hz); A'-A' (60 Hz) | B-B (50 Hz); B'-B' (60 Hz) | C-C (50 Hz); C'-C' (60 Hz) | D-D (50 Hz); D'-D' (60 Hz) | E-E (50 Hz); E'-E' (60 Hz) | F-F (50 Hz); F'-F' (60 Hz) |
| Relief valve                     | NO STD BAL                 | NO STD BAL                 | NO STD BAL                 | NO STD BAL                 | NO STD BAL                 | NO STD BAL                 |



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# Brass rotary vane pumps PO 70-400 series

The rotary vane pumps, manufactured by Fluid-o-Tech® and sold worldwide under the trademark Rotoflow®, are volumetric pumps designed for pumping water and moderate aggressive liquids with low flow at high pressure.

## Technical features and manufacturing characteristics

The rotary vane pump is brass made with a stainless steel AISI 303 rotor, while the pumping chamber and the vanes are in carbon graphite. The inlet and outlet ports are 3/8" GAS or NPT threaded. The pumps are designed to be directly mounted to the motor with a stainless steel clamp. For different mounting arrangements see our technical info "optional mountings". Maximum operative temperature: 70 °C (158 F).

## Available upon request:

- Viton®/EPDM seals
- Built-in relief valve
- Built-in 100 mesh strainer
- Flange mount
- California AB 1953 compliant brass

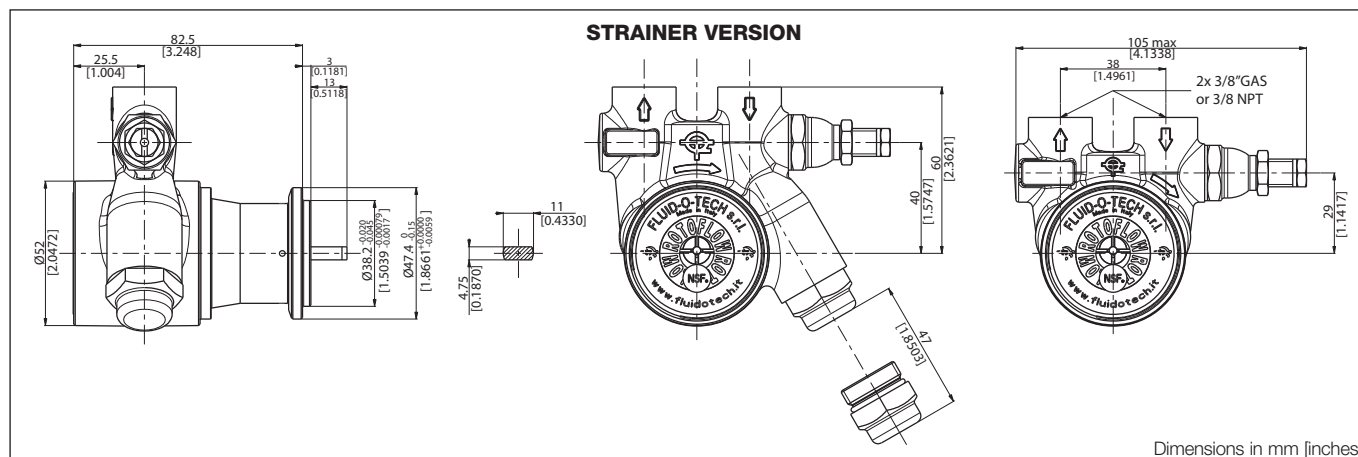


## MAIN APPLICATIONS

- Beverage vending machines
- Post mix drink dispensers
- Espresso coffee machines
- Water treatment
- Water dispensers
- Cooling systems

## TECHNICAL INFORMATION

|                       |                 |                           |                              |
|-----------------------|-----------------|---------------------------|------------------------------|
| Pump housing material | Brass           | Max static pressure       | 20 bar/290 psi               |
| Pumping chamber       | Carbon graphite | Pump weight (clamp mount) | w/o strainer 1.1 kg (2.5 lb) |
| Ports                 | 3/8" GAS or NPT |                           | w strainer 1.3 kg (2.9 lb)   |
| Speed limit           | 1725 rpm        |                           |                              |

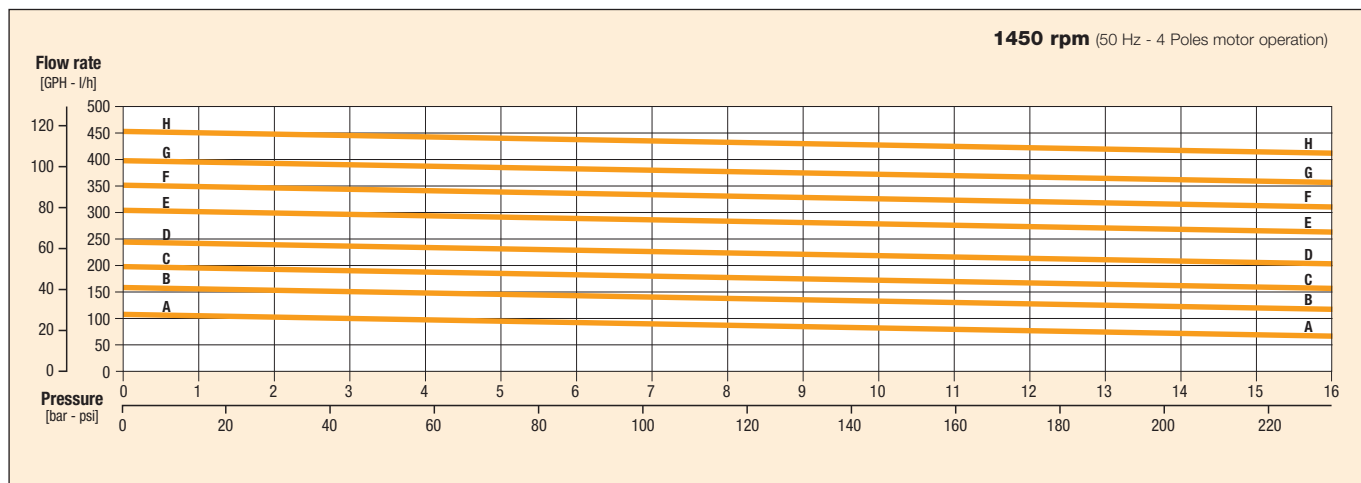


Dimensions in mm [inches]

## Brass rotary vane pumps PO 70-400 series

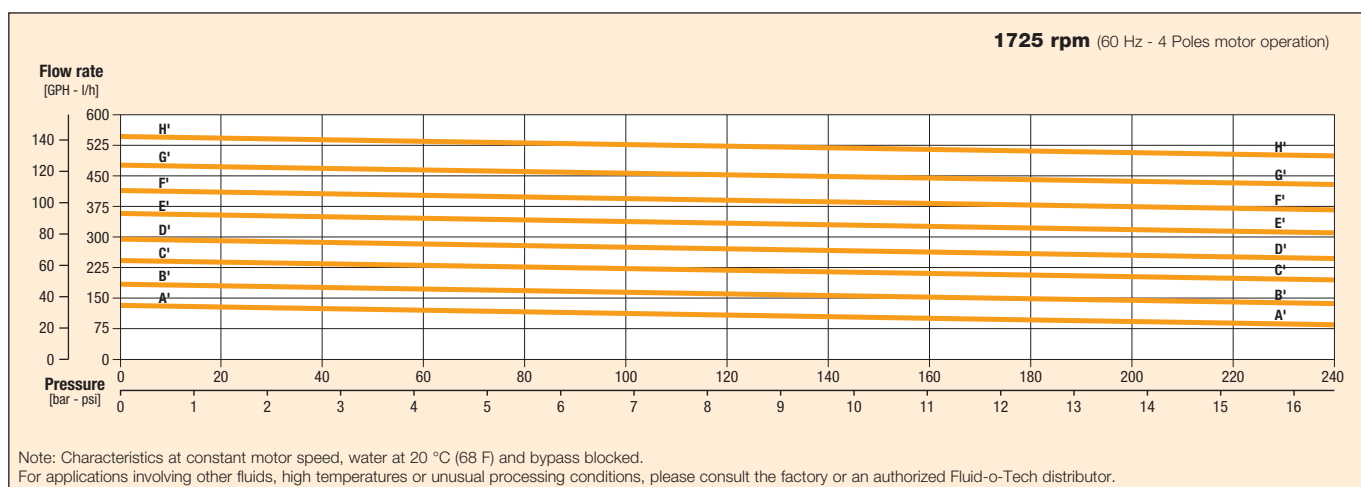
| Model        | P0/PA/PW/PB | 070 | 071 | 074 | 071x | 074x | 100 | 101 | 104 | 101x | 104x | 1500 | 1501 | 1504 | 1501x | 1504x | 200 | 201 | 204 | 201x | 204x |
|--------------|-------------|-----|-----|-----|------|------|-----|-----|-----|------|------|------|------|------|-------|-------|-----|-----|-----|------|------|
| Figure       |             |     |     | A-A |      |      |     |     | B-B |      |      |      |      | C-C  |       |       |     |     | D-D |      |      |
| Relief valve |             | NO  | STD | BAL | STD  | BAL  | NO  | STD | BAL | STD  | BAL  | NO   | STD  | BAL  | STD   | BAL   | NO  | STD | BAL | STD  | BAL  |
| Strainer     |             | NO  | NO  | NO  | YES  | YES  | NO  | NO  | NO  | YES  | YES  | NO   | NO   | NO   | YES   | YES   | NO  | NO  | NO  | YES  | YES  |

| Model        | P0/PA/PW/PB | 2500 | 2501 | 2504 | 2501x | 2504x | 300 | 301 | 304 | 301x | 304x | 3500 | 3501 | 3504 | 3501x | 3504x | 400 | 401 | 404 | 401x | 404x |
|--------------|-------------|------|------|------|-------|-------|-----|-----|-----|------|------|------|------|------|-------|-------|-----|-----|-----|------|------|
| Figure       |             |      |      | E-E  |       |       |     |     | F-F |      |      |      |      | G-G  |       |       |     |     | H-H |      |      |
| Relief valve |             | NO   | STD  | BAL  | STD   | BAL   | NO  | STD | BAL | STD  | BAL  | NO   | STD  | BAL  | STD   | BAL   | NO  | STD | BAL | STD  | BAL  |
| Strainer     |             | NO   | NO   | NO   | YES   | YES   | NO  | NO  | NO  | YES  | YES  | NO   | NO   | NO   | YES   | YES   | NO  | NO  | NO  | YES  | YES  |



| Model        | P0/PA/PW/PB | 070 | 071 | 074   | 071x | 074x | 100 | 101 | 104   | 101x | 104x | 1500 | 1501 | 1504  | 1501x | 1504x | 200 | 201 | 204   | 201x | 204x |
|--------------|-------------|-----|-----|-------|------|------|-----|-----|-------|------|------|------|------|-------|-------|-------|-----|-----|-------|------|------|
| Figure       |             |     |     | A'-A' |      |      |     |     | B'-B' |      |      |      |      | C'-C' |       |       |     |     | D'-D' |      |      |
| Relief valve |             | NO  | STD | BAL   | STD  | BAL  | NO  | STD | BAL   | STD  | BAL  | NO   | STD  | BAL   | STD   | BAL   | NO  | STD | BAL   | STD  | BAL  |
| Strainer     |             | NO  | NO  | NO    | YES  | YES  | NO  | NO  | NO    | YES  | YES  | NO   | NO   | NO    | YES   | YES   | NO  | NO  | NO    | YES  | YES  |

| Model        | P0/PA/PW/PB | 2500 | 2501 | 2504  | 2501x | 2504x | 300 | 301 | 304   | 301x | 304x | 3500 | 3501 | 3504  | 3501x | 3504x | 400 | 401 | 404   | 401x | 404x |
|--------------|-------------|------|------|-------|-------|-------|-----|-----|-------|------|------|------|------|-------|-------|-------|-----|-----|-------|------|------|
| Figure       |             |      |      | E'-E' |       |       |     |     | F'-F' |      |      |      |      | G'-G' |       |       |     |     | H'-H' |      |      |
| Relief valve |             | NO   | STD  | BAL   | STD   | BAL   | NO  | STD | BAL   | STD  | BAL  | NO   | STD  | BAL   | STD   | BAL   | NO  | STD | BAL   | STD  | BAL  |
| Strainer     |             | NO   | NO   | NO    | YES   | YES   | NO  | NO  | NO    | YES  | YES  | NO   | NO   | NO    | YES   | YES   | NO  | NO  | NO    | YES  | YES  |



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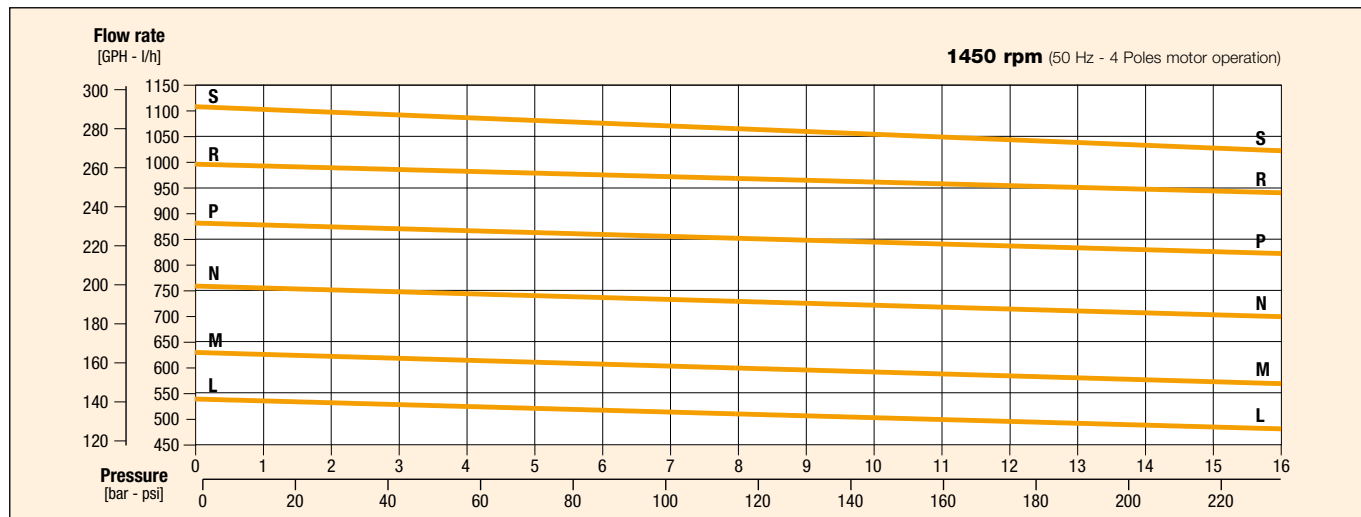
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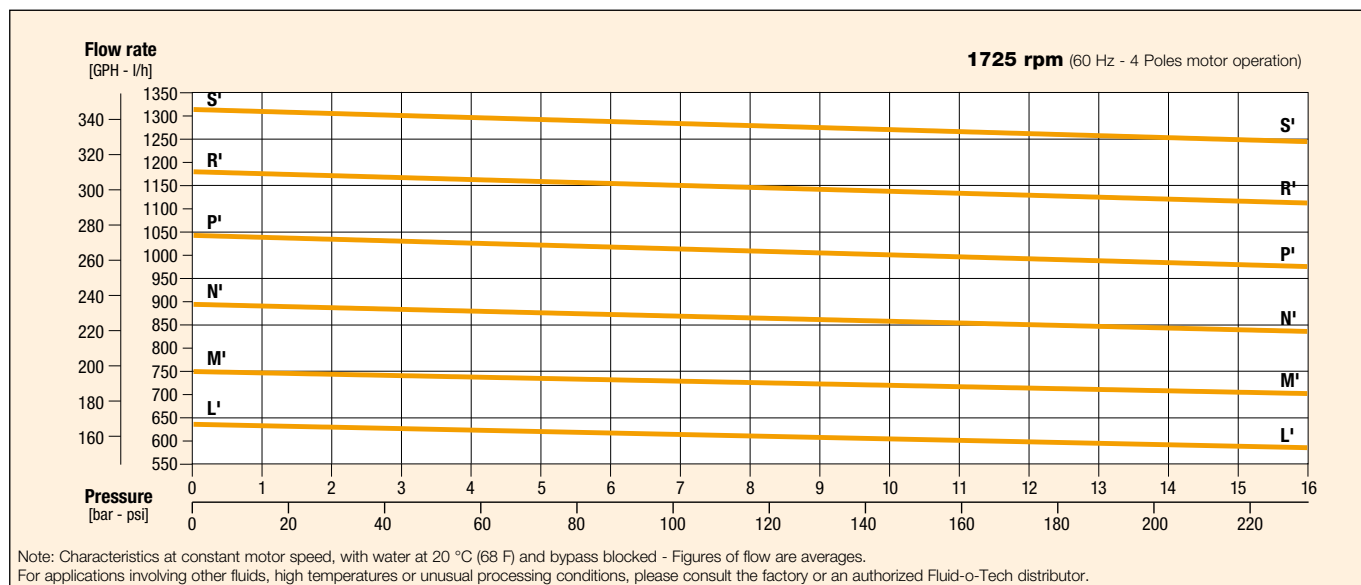


# Brass and stainless steel rotary vane pumps PO 500-1000 series

| Model PO/PA/PW<br>Brass           | 500 | 501 | 500F | 501F | 600 | 601 | 600F | 601F | 700 | 701 | 700F | 701F | 800 | 801 | 800F | 801F | 900 | 901 | 900F | 901F | 1000 | 1001 | 1000F | 1001F |
|-----------------------------------|-----|-----|------|------|-----|-----|------|------|-----|-----|------|------|-----|-----|------|------|-----|-----|------|------|------|------|-------|-------|
| Model PO/PA/PW<br>Stainless Steel | 510 | 511 | 510F | 511F | 610 | 611 | 610F | 611F | 710 | 711 | 710F | 711F | 810 | 811 | 810F | 811F | 910 | 911 | 910F | 911F | 1010 | 1011 | 1010F | 1011F |
| Figure                            |     |     | L-L  |      |     |     | M-M  |      |     |     | N-N  |      |     |     | P-P  |      |     | R-R |      |      |      | S-S  |       |       |
| Relief valve                      | NO  | YES | NO   | YES  | NO  | YES | NO   | YES  | NO  | YES | NO   | YES  | NO  | YES | NO   | YES  | NO  | YES | NO   | YES  | NO   | YES  | NO    | YES   |
| Flange mount                      | NO  | NO  | YES  | YES  | NO  | NO  | YES  | YES  | NO  | NO  | YES  | YES  | NO  | NO  | YES  | YES  | NO  | NO  | YES  | YES  | NO   | NO   | YES   | YES   |
| Clamp mount                       | YES | YES | NO   | NO   | YES | YES | NO   | NO   | YES | YES | NO   | NO   | YES | YES | NO   | NO   | YES | YES | NO   | NO   | YES  | YES  | NO    | NO    |



| Model PO/PA/PW<br>Brass           | 500 | 501 | 500F  | 501F | 600 | 601 | 600F  | 601F | 700 | 701 | 700F  | 701F | 800 | 801 | 800F  | 801F | 900 | 901   | 900F | 901F | 1000 | 1001  | 1000F | 1001F |
|-----------------------------------|-----|-----|-------|------|-----|-----|-------|------|-----|-----|-------|------|-----|-----|-------|------|-----|-------|------|------|------|-------|-------|-------|
| Model PO/PA/PW<br>Stainless Steel | 510 | 511 | 510F  | 511F | 610 | 611 | 610F  | 611F | 710 | 711 | 710F  | 711F | 810 | 811 | 810F  | 811F | 910 | 911   | 910F | 911F | 1010 | 1011  | 1010F | 1011F |
| Figure                            |     |     | L'-L' |      |     |     | M'-M' |      |     |     | N'-N' |      |     |     | P'-P' |      |     | R'-R' |      |      |      | S'-S' |       |       |
| Relief valve                      | NO  | YES | NO    | YES  | NO  | YES | NO    | YES  | NO  | YES | NO    | YES  | NO  | YES | NO    | YES  | NO  | YES   | NO   | YES  | NO   | YES   | NO    | YES   |
| Flange mount                      | NO  | NO  | YES   | YES  | NO  | NO  | YES   | YES  | NO  | NO  | YES   | YES  | NO  | NO  | YES   | YES  | NO  | NO    | YES  | YES  | NO   | NO    | YES   | YES   |
| Clamp mount                       | YES | YES | NO    | NO   | YES | YES | NO    | NO   | YES | YES | NO    | NO   | YES | YES | NO    | NO   | YES | YES   | NO   | NO   | YES  | YES   | NO    | NO    |



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# Stainless steel rotary vane pumps

## PO 4000 series

The 4000 series rotary vane pumps, available in 7 different displacements, are the largest Rotoflow® high technology volumetric pumps. The pump housing, the rotor and every metallic component are in AISI 303 stainless steel.

The pumping chamber and the vanes are in high impact carbon graphite. The self-lubricating property of polished stainless steel and carbon graphite makes this pump well suited for water and water based solutions.

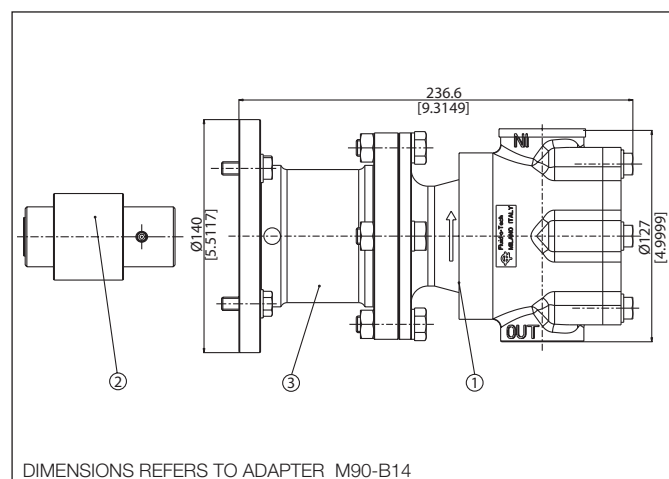
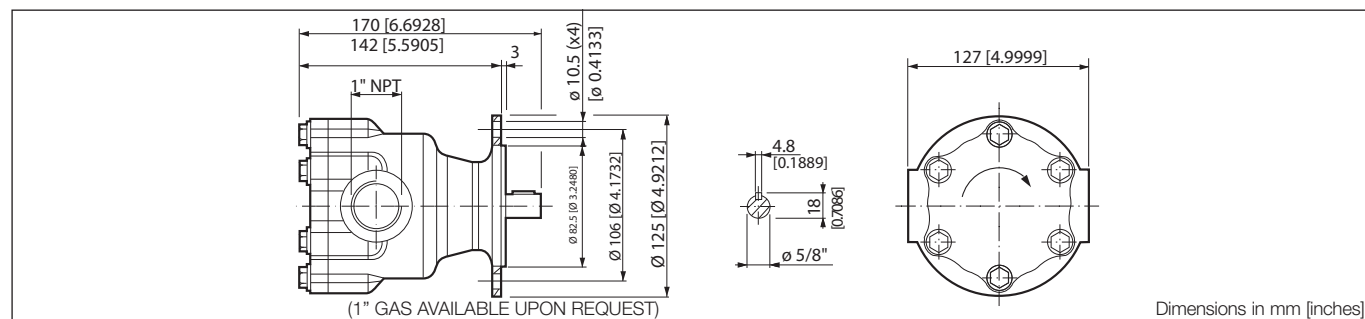
Inlet/outlet ports are 1" NPT female threaded (1" GAS available upon request). All models are available with NBR or Viton® seals. Maximum operative temperature: 70 °C (158 F).

- Max. motor speed: 1725 rpm
- Max. system pressure: 20 bar (290 psi)  
(Safety valve recommended)



### MAIN APPLICATIONS

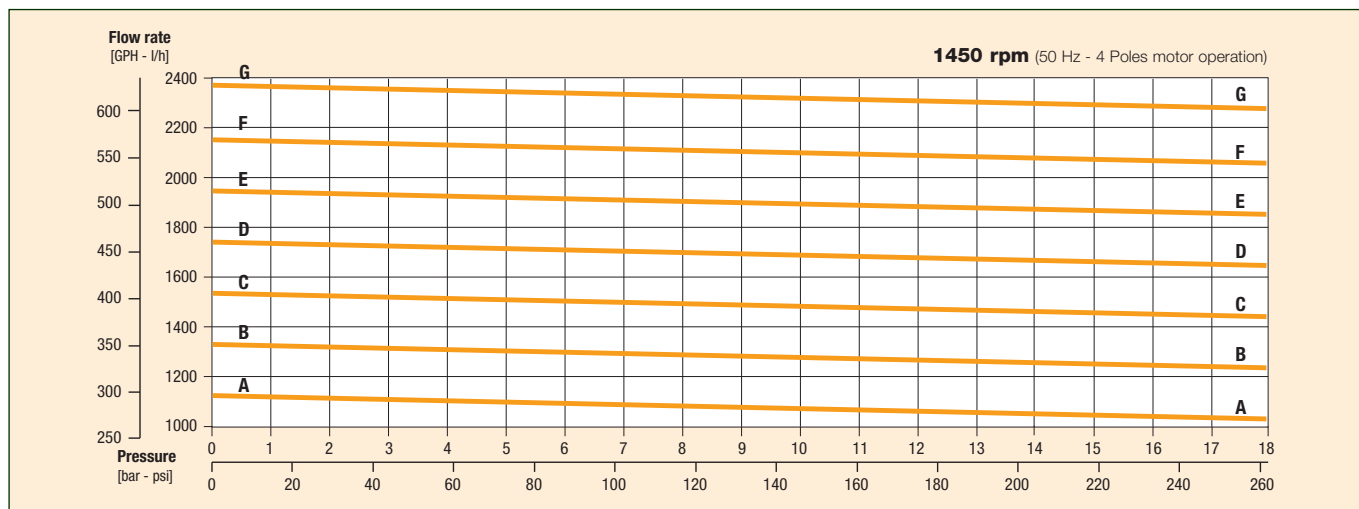
- Reverse osmosis
- Car wash
- Cooling systems
- Irrigation



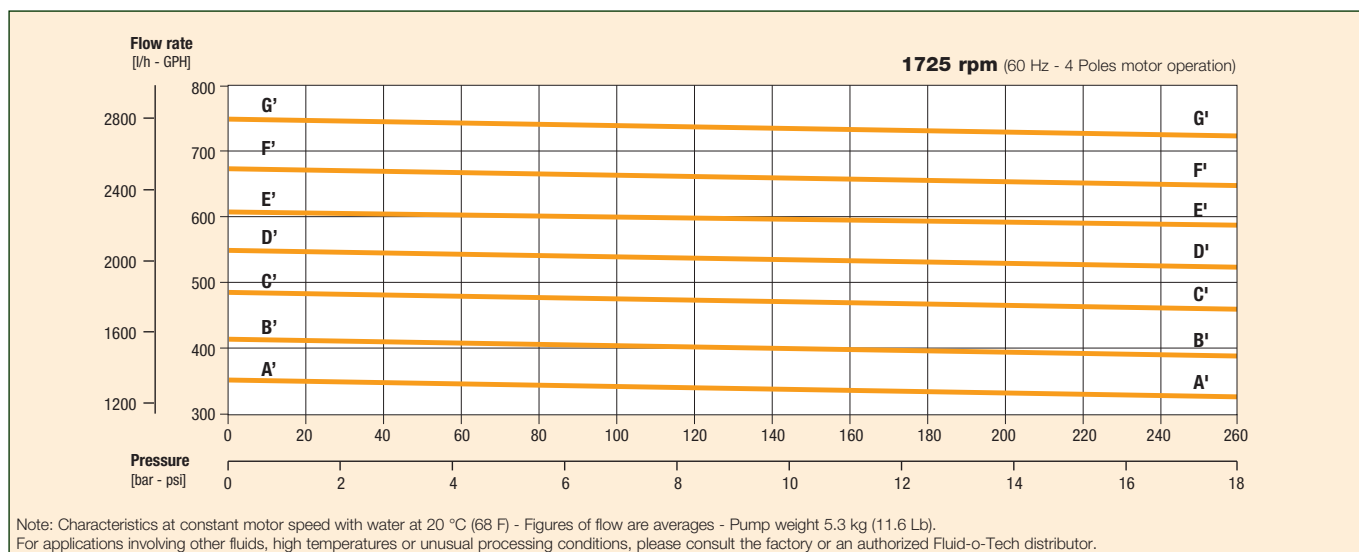
| POS | DESCRIPTION                          | MATERIAL        | CODE     |
|-----|--------------------------------------|-----------------|----------|
| 1   | Pump                                 | Stainless Steel | -        |
| 2   | Coupling M90                         | Cast Iron       | 91-80-03 |
|     | Coupling Nema 56C                    |                 | 91-80-05 |
|     | Coupling Nema 143TC-145TC            |                 | 91-80-04 |
| 3   | Adapter M90 B14 with screws          | Aluminium       | 92-81-02 |
|     | Adapter Nema 56C with screws         |                 | 211605   |
|     | Adapter Nema 143TC-145TC with screws |                 | 211605   |

# Stainless steel rotary vane pumps PO 4000 series

| PO MODEL | 4010  | 4020  | 4040  | 4060  | 4080  | 4100  | 4120  |
|----------|-------|-------|-------|-------|-------|-------|-------|
| Figure   | A - A | B - B | C - C | D - D | E - E | F - F | G - G |



| PO MODEL | 4010    | 4020    | 4040    | 4060    | 4080    | 4100    | 4120    |
|----------|---------|---------|---------|---------|---------|---------|---------|
| Figure   | A' - A' | B' - B' | C' - C' | D' - D' | E' - E' | F' - F' | G' - G' |



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# Brass and stainless steel magnet drive rotary vane pumps TM 30-200 series

The Fluid-o-Tech® magnetic drive rotary vane pumps combine the established range of pumps with the added advantage of an indirect magnetic coupling:

- longer service life
- low maintenance
- smooth transmission
- totally sealed body
- less power consumption

The principle of the magnetic drive comprises an inner magnet embodied in the pump and connected to the rotor, and an outer magnet connected to the motor shaft. The pole-to-pole alignment of the two magnets provides the driving motion to the pump. Decoupling occurs when the pump load exceeds the coupling torque between the magnets. The introduction of a new driving magnet with increased torque (available upon request) brings the maximum operating pressure to the same values of the PO series with direct coupling. The Rotoflow® TM series magnetic drive rotary vane pumps are available in stainless steel AISI 303 or brass, with carbon graphite internal components and NBR seals. Maximum operative temperature: 70 °C (158 F).

Available upon request:

- Viton®/EPDM seals



## MAIN APPLICATIONS

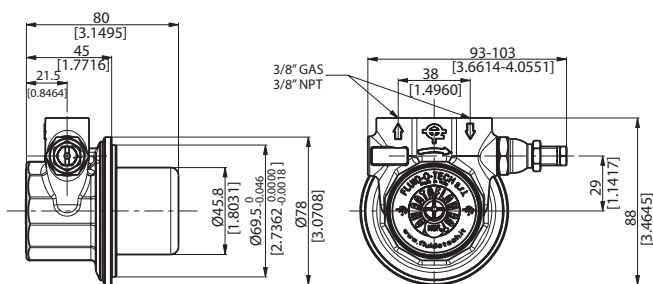
- Espresso coffee machines
- Cooling systems
- Water treatment
- Booster systems
- Solar systems



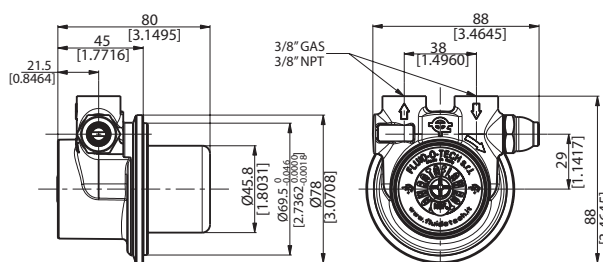
## TECHNICAL INFORMATION

|                       |                          |                     |                 |
|-----------------------|--------------------------|---------------------|-----------------|
| Pump housing material | Brass or stainless steel | Speed limit         | 3500 rpm        |
| Pumping chamber       | Carbon graphite          | Max static pressure | 20 bar/290 psi  |
| Ports                 | 3/8" GAS or NPT          | Pump weight         | 1.1 kg (2.4 lb) |

### STAINLESS STEEL VERSION

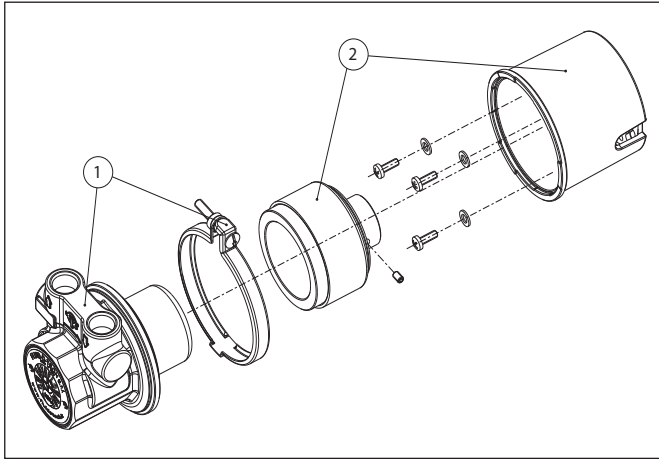


### BRASS VERSION



Dimensions in mm [inches]

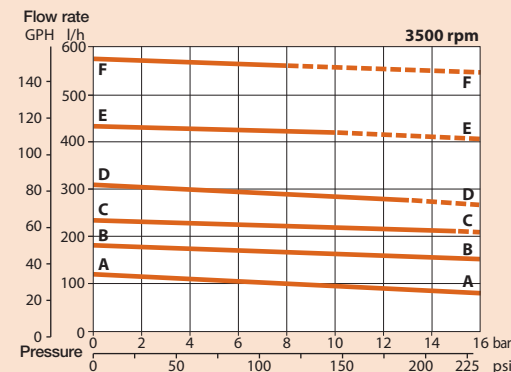
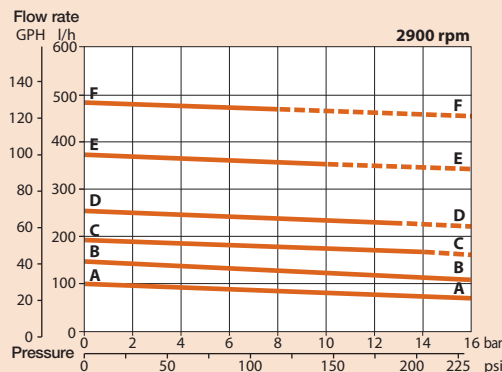
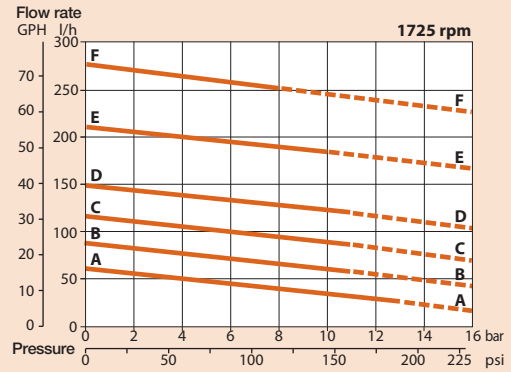
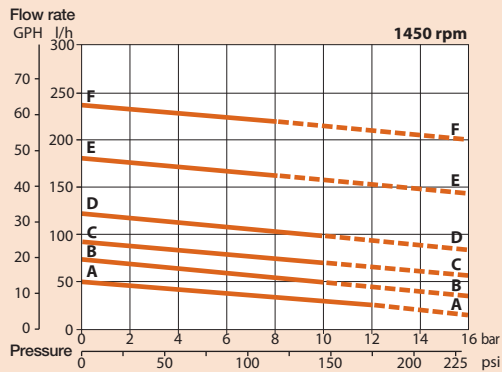
# Brass and stainless steel magnet drive rotary vane pumps TM 30-200 series



| POS | DESCRIPTION                              | CODE    |
|-----|------------------------------------------|---------|
| 1   | TM series pump                           |         |
| 2   | Standard mounting assembly (M56-B14)     | TMBF56S |
|     | High torque mounting assembly (M56-B14)  | TMBS56C |
|     | Standard mounting assembly (M63-B14)     | TMBF63S |
|     | High torque mounting assembly (M63-B14)  | TMBS63C |
|     | Standard mounting assembly (NEMA 56C)    | TMBF5BS |
|     | High torque mounting assembly (NEMA 56C) | TMBS5BC |

Note: The "C" series driving magnets provide a slot in the internal bore to accept the driving key of motors M56 and M63 frame.

| MODEL   | RELIEF VALVE | HOUSING         | FIGURE |
|---------|--------------|-----------------|--------|
| TMSS030 | NO           | STAINLESS STEEL | A-A    |
| TMSS050 |              |                 | B-B    |
| TMSS070 |              |                 | C-C    |
| TMSS100 |              |                 | D-D    |
| TMSS150 |              |                 | E-E    |
| TMSS200 |              |                 | F-F    |
| TMSS031 | STANDARD     | STAINLESS STEEL | A-A    |
| TMSS051 |              |                 | B-B    |
| TMSS071 |              |                 | C-C    |
| TMSS101 |              |                 | D-D    |
| TMSS151 |              |                 | E-E    |
| TMSS201 |              |                 | F-F    |
| TMOT030 | NO           | BRASS           | A-A    |
| TMOT050 |              |                 | B-B    |
| TMOT070 |              |                 | C-C    |
| TMOT100 |              |                 | D-D    |
| TMOT150 |              |                 | E-E    |
| TMOT200 |              |                 | F-F    |
| TMOT031 | STANDARD     | BRASS           | A-A    |
| TMOT051 |              |                 | B-B    |
| TMOT071 |              |                 | C-C    |
| TMOT101 |              |                 | D-D    |
| TMOT151 |              |                 | E-E    |
| TMOT201 |              |                 | F-F    |
| TMOT034 | BALANCED     | BRASS           | A-A    |
| TMOT054 |              |                 | B-B    |
| TMOT074 |              |                 | C-C    |
| TMOT104 |              |                 | D-D    |
| TMOT154 |              |                 | E-E    |
| TMOT204 |              |                 | F-F    |



— curves with driving magnets TMAF09S, TMAF11S, TMAF5BS

- - - curves with driving magnets TMAF09C, TMAF11C, TMAF5BC

Note: Hydraulic characteristics with water at 20 °C (68 °F) and without bypass. Use filter before pump inlet not larger than 10 microns.  
For applications involving other fluids, high temperatures, unusual processing conditions or speed higher than 2500 rpm consult the factory or an authorized distributor.

Fluid-o-Tech reserves the right to alter the specifications indicated in this catalogue at any time and without prior notice.

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# Magnet drive rotary vane pump-motor units

## TMFR 30-200 series

The TMFR series, an integrated pump-motor unit where the motor has no moving parts, features a combination of compact size, superior performance, low energy consumption and silent operation to provide great versatility in a refined, high tech design.

The internal magnet, driven through an electromagnetic field, is capable of transmitting high torque to the shaft.

The speed control system allows the unit to self-adapt to the hydraulic conditions of the circuit to maintain a set pressure or flow rate, while the brushless technology provides a reliable and long lasting operation.

- Compact size
- Motor housing in aluminum
- No wear on the motor
- Black anodized finishing available
- Continuous speed control
- Continuous duty



### MAIN APPLICATIONS

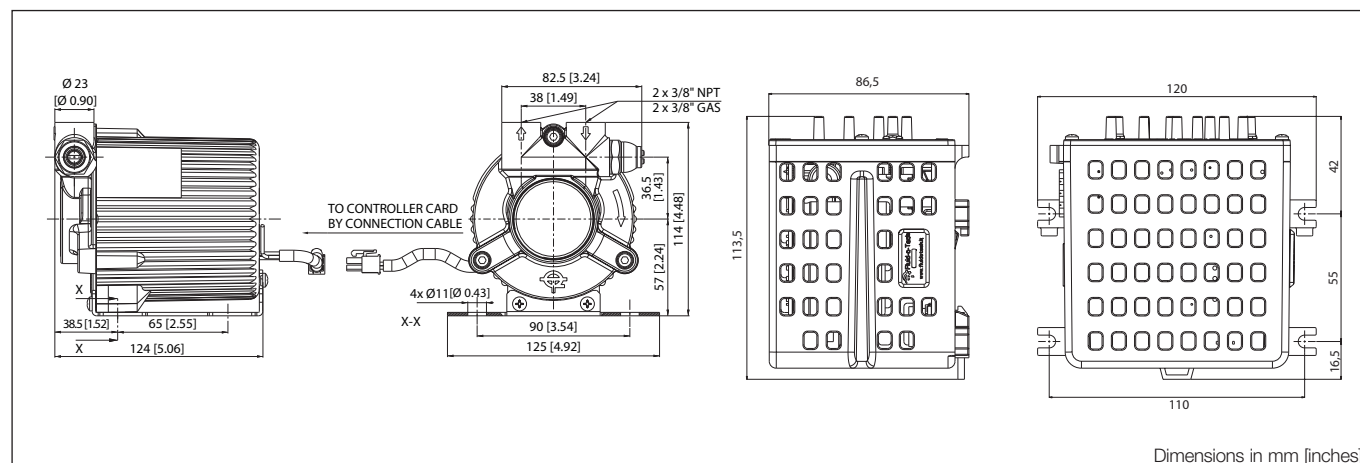
- Laser cooling
- Solar heating systems
- Refrigerating gas transfer
- Reverse osmosis
- Welding
- Fuel burner
- Water repressurization
- Post mix systems
- Espresso coffee machines



### TECHNICAL INFORMATION

|                               |                          |                            |                           |
|-------------------------------|--------------------------|----------------------------|---------------------------|
| Pump housing material         | Brass or stainless steel | Max. operative temperature | 70 °C (158 F)             |
| Pumping chamber               | Carbon graphite          | Motor type                 | 100-110-230 V AC 50/60 Hz |
| Ports                         | 3/8" GAS or NPT          | Speed range                | 1100 to 3500 rpm          |
| Max static pressure           | 20 bar/290 psi           | Absorbed power             | max 330 W                 |
| Noise                         | 46dB (A) at 1500 rpm     | Actual power               | max 250 W                 |
| Unit weight (w/o controller*) | 2.7 kg (5.9 Lb)          | Motor IP protection        | IP 20                     |

\* Controller weight: 700 g (1,5 Lb).



# Magnet drive rotary vane pump-motor units TMFR 30-200 series

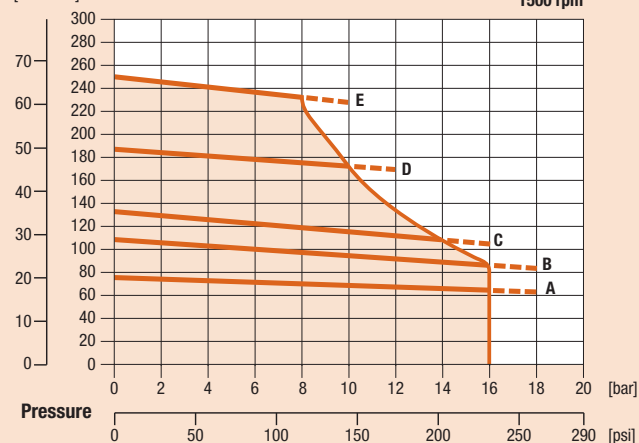
| TMFROT (BRASS) | 050 | 051 | 054 | 070 | 071 | 074 | 100 | 101 | 104 | 150 | 151 | 154 | 200 | 201 | 204 |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Figure         | A   |     |     | B   |     |     | C   |     |     | D   |     |     | E   |     |     |
| Relief valve   | NO  | STD | BAL | NO  | STD | BAL | NO  | STD | BAL | NO  | STD | BAL | NO  | STD | BAL |

| TMFRSS (STAINLESS STEEL) | 050 | 051 | 070 | 071 | 100 | 101 | 150 | 151 | 200 | 201 |
|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Figure                   | A   |     | B   |     | C   |     | D   |     | E   |     |
| Relief valve             | NO  | STD | NO  | STD | NO  | STD | NO  | STD | NO  | STD |

Flow rate

[GPH - l/h]

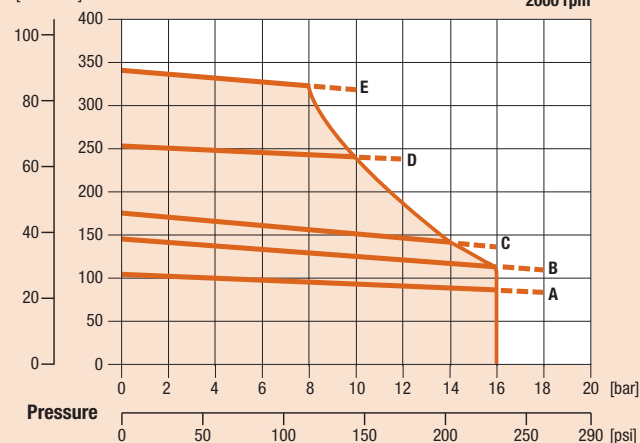
1500 rpm



Flow rate

[GPH - l/h]

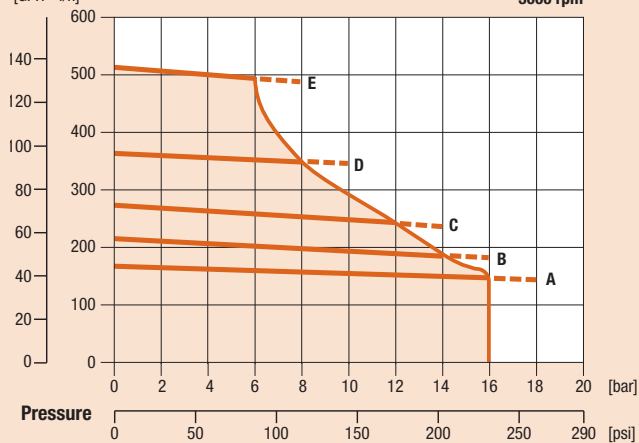
2000 rpm



Flow rate

[GPH - l/h]

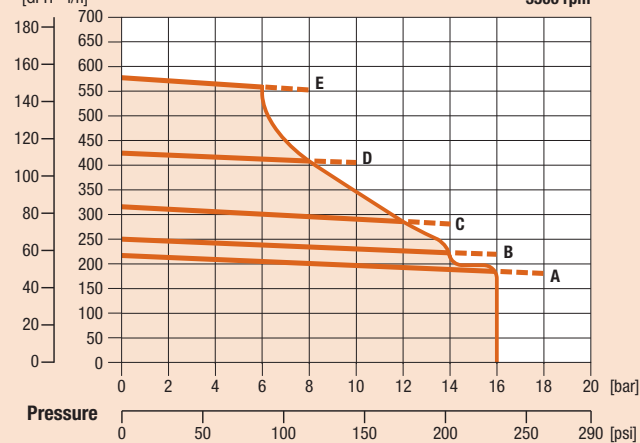
3000 rpm



Flow rate

[GPH - l/h]

3500 rpm



— continuous duty    - - - intermittent duty

Note: Hydraulic performances measured with 20 °C (68 F) water and without bypass. Curves are averages.

For applications involving other fluids, high temperatures, unusual processing conditions or speed higher than 3500 rpm consult the factory or an authorized Fluid-o-Tech distributor.

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# Magnet drive rotary vane pumps

## TM 300-400 series

The TM 300-400 series pumps have been designed to deliver a smooth flow reliably for a long time.

The precise alignment of pump and motor, combined with the absence of contact between them granted by the magnetic drive, optimizes the operation of the unit reducing friction and therefore wear, noise and power consumption.

The absence of dynamic seals in favour of static o-rings improves the reliability of the pump and at the same time of the motor driving it.

The pump, with stainless steel housing and rotor, carbon graphite pumping chamber and NBR seals, is NSF certified for use in contact with potable water.

### Available upon request:

- Viton®/EPDM seals



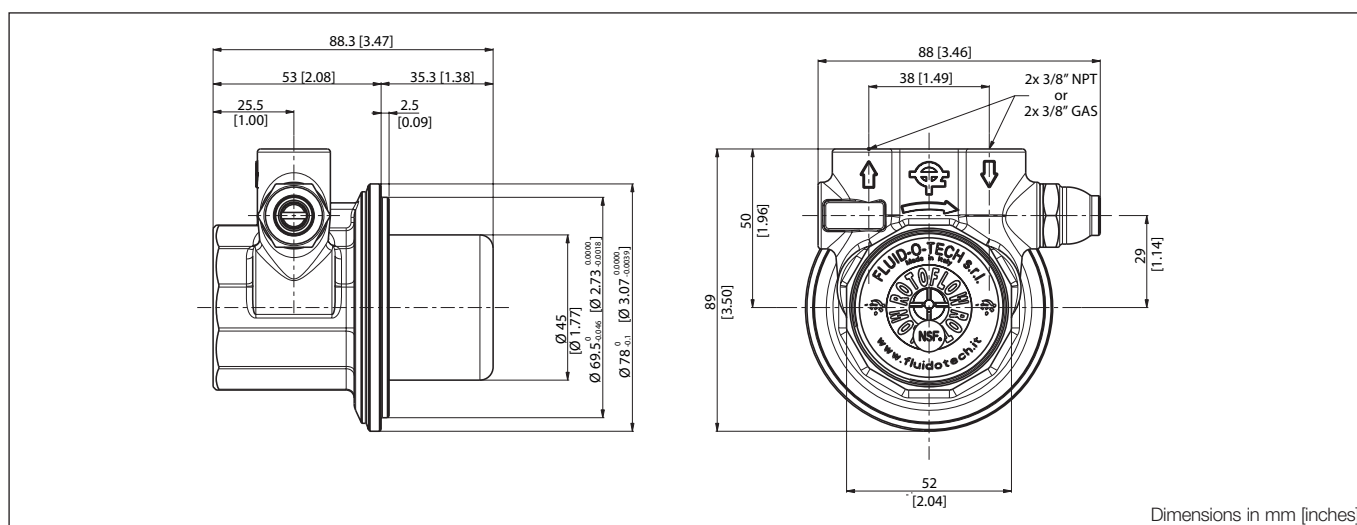
### MAIN APPLICATIONS

- Cooling systems
- Water treatment
- Booster systems
- Solar systems

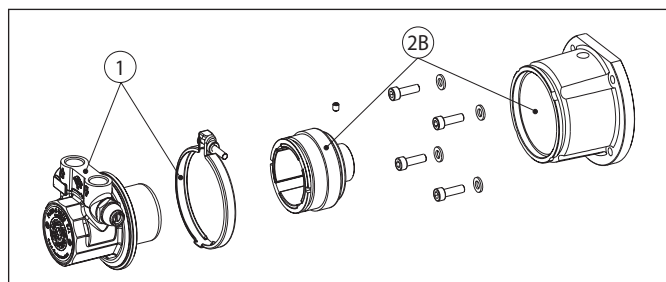
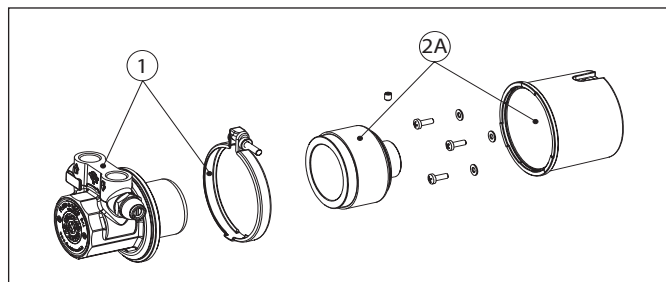


### TECHNICAL INFORMATION

|                       |                 |                     |                 |
|-----------------------|-----------------|---------------------|-----------------|
| Pump housing material | Stainless steel | Speed limit         | 1725 rpm        |
| Pumping chamber       | Carbon graphite | Max static pressure | 20 bar/290 psi  |
| Ports                 | 3/8" GAS or NPT | Pump weight         | 1.0 kg (2.2 lb) |



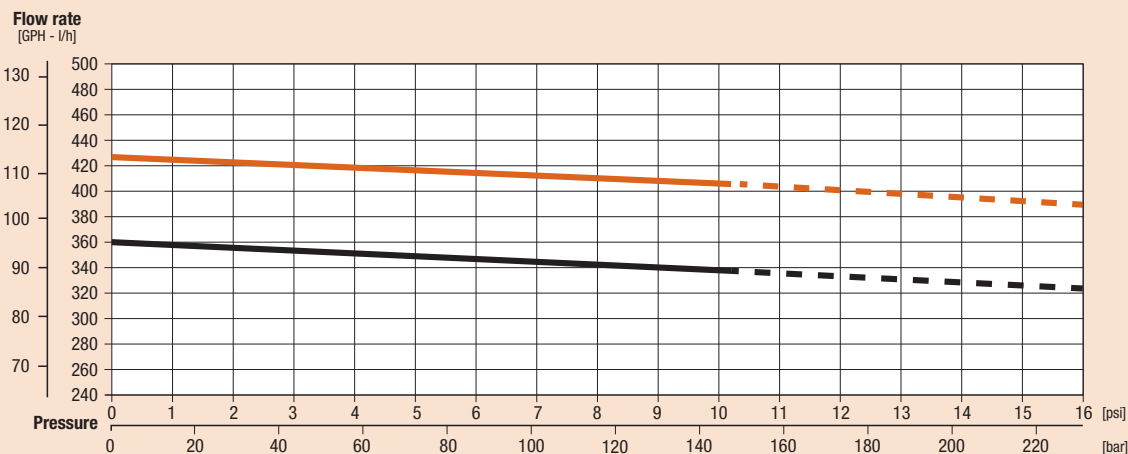
# Magnet drive rotary vane pumps TM 300-400 series



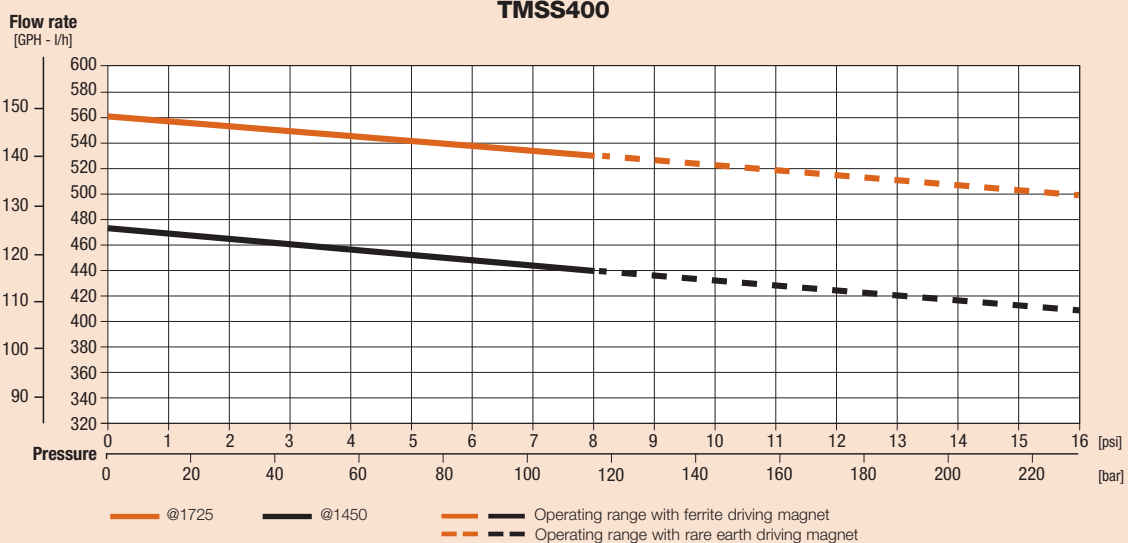
| POS       | DESCRIPTION                             | CODE    |
|-----------|-----------------------------------------|---------|
| <b>1</b>  | TS 300-400 series pump                  |         |
| <b>2A</b> | Mounting assembly (M56-B14)             | TMBF56S |
|           | Mounting assembly (M63-B14)             | TMBF63S |
|           | Mounting assembly (M71-B14)             | TMBF71S |
|           | Mounting assembly (NEMA 56C)            | TMBF5BS |
| <b>2B</b> | High torque mounting assembly (M56-B14) | TSBS56C |
|           | High torque mounting assembly (M63-B14) | TSBS63C |
|           | High torque mounting assembly (M71-B14) | TSBS71C |

| MODEL   | RELIEF VALVE | FIGURE |
|---------|--------------|--------|
| TMSS300 | NO           | 1      |
| TMSS400 |              | 2      |
| TMSS301 | STANDARD     | 1      |
| TMSS401 |              | 2      |
| TMSS304 | BALANCED     | 1      |
| TMSS404 |              | 2      |

**TMSS300**



**TMSS400**



For applications involving other fluids, high temperatures or unusual processing conditions, please consult the factory or an authorized Fluid-o-Tech distributor.

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# Magnet drive rotary vane pump-motor unit TSFR 300-400 series

The TMFR series and its innovative concept of a completely integrated unit evolves into a larger flow rate unit: the TSFR unit. Especially designed for those applications where many hours of operation are required, the TSFR is designed to handle up to 1000 l/h on a continuous duty base.

The electro-magnetic drive grants absence of friction and high efficiency. The evolution of the electronic controller into an intelligent unit, allows the option of a continuous ramp speed control between 1100 and 3500 rpm where the speed of acceleration may be precisely varied.

External feedback loop allows to choose a constant pressure or flow rate values independently from the variations of the hydraulic conditions.

The versatility of this product opens new horizons to high technology systems. The housing and the rotor are in AISI 303 stainless steel, while the pumping chamber is in carbon graphite. Elastomers are available in NBR, Viton® or EPDM.



## MAIN APPLICATIONS

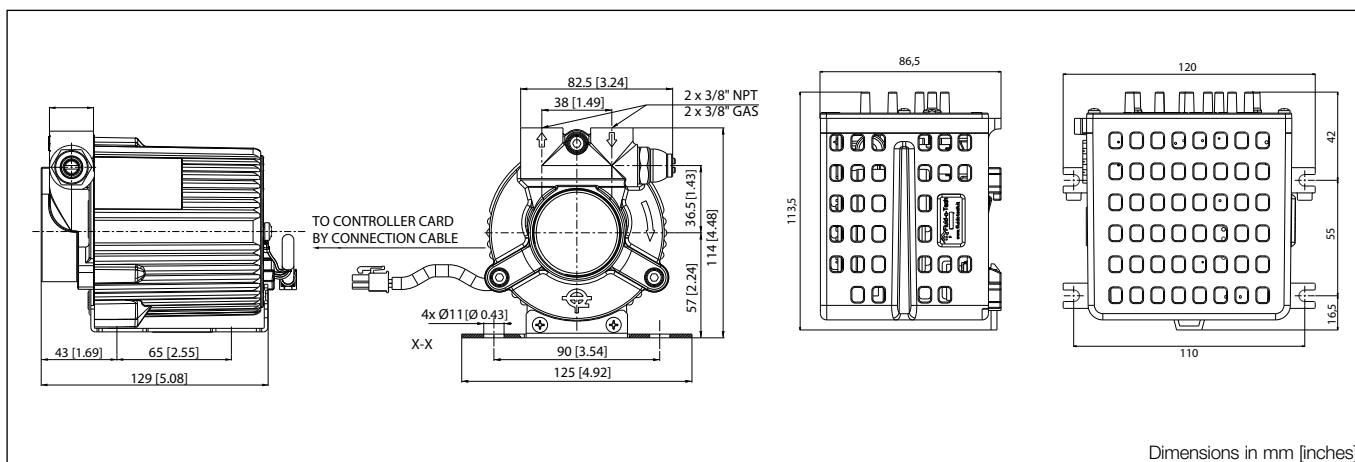
- Post mix
- Welding
- Cooling
- Solar heating
- Circuit washing
- Refrigerating gas transfer



## TECHNICAL INFORMATION

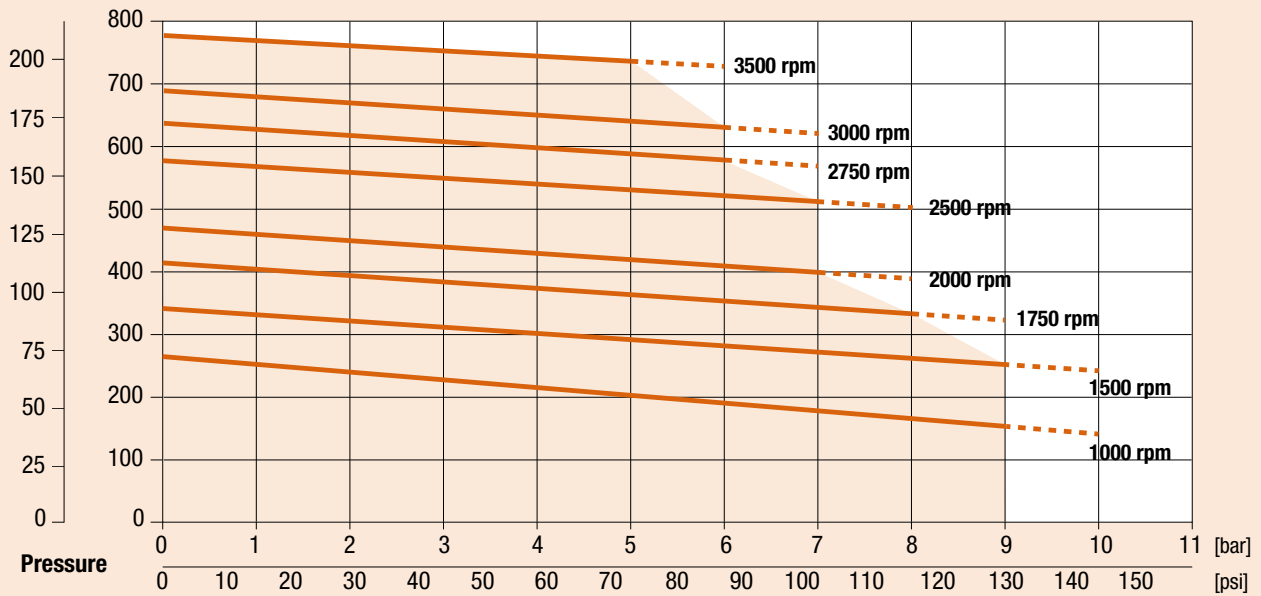
|                               |                      |                            |                           |
|-------------------------------|----------------------|----------------------------|---------------------------|
| Pump housing material         | Stainless steel      | Max. operative temperature | 70 °C (158 F)             |
| Pumping chamber               | Carbon graphite      | Motor type                 | 100-110-230 V AC 50/60 Hz |
| Ports                         | 3/8" GAS or NPT      | Speed range                | 1100 to 3500 rpm          |
| Max static pressure           | 20 bar/290 psi       | Absorbed power             | max 330 W                 |
| Noise                         | 49dB (A) at 1100 rpm | Actual power               | max 250 W                 |
| Unit weight (w/o controller*) | 2.8 kg (6.2 Lb)      | Motor IP protection        | IP 20                     |

\* Controller weight: 700 g (1,5 Lb).



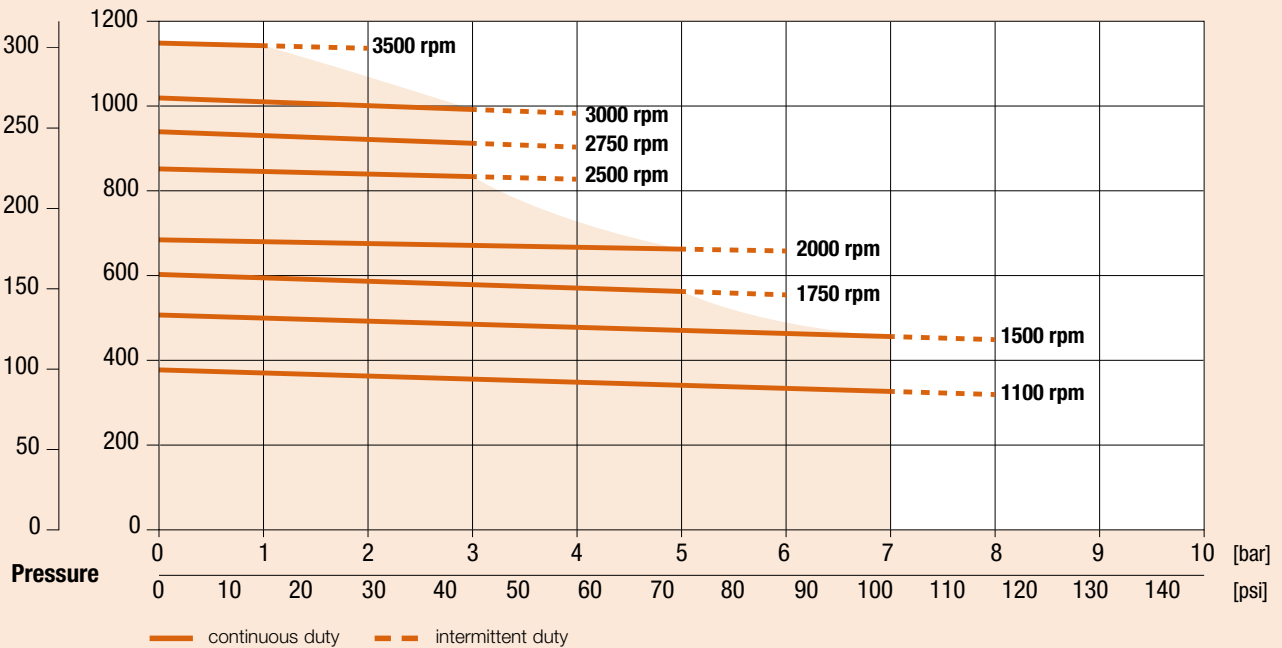
## TSFR 300

Flow rate  
[GPH - l/h]



## TSFR 400

Flow rate  
[GPH - l/h]



Note: Hydraulic performances measured with 20 °C (68 F) water and without bypass. Curves are averages.

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# Brass and stainless steel magnet drive rotary vane pumps TH 500-1000 series

The Fluid-o-Tech® magnetic drive rotary vane pumps range widens with the introduction of the TH series which combines the larger flow rate (500 to 1000 l/h at 1450 rpm or 160 to 330 GPH at 1725 rpm) with the added benefit of the magnetic coupling:

- longer service life
- low maintenance
- smooth transmission
- totally sealed body
- less power consumption

The rare earths magnet grants high performance and perfect alignment between the pump and the motor, extending the life of the unit. The absence of friction, usually caused by the rotation of the mechanical seal against the ceramic seat, allows a more efficient operation and therefore a low power consumption. The Rotoflow® TH series pumps offer multiple options to configure the product to the specific need of each customer. The housing is available in AISI 303 or brass. The internal components include AISI 303 rotor, carbon graphite pumping chamber and NBR seals. Maximum operative temperature: 70 °C (158 F).

#### Available upon request:

- Built-in relief valve
- Viton®/EPDM seals

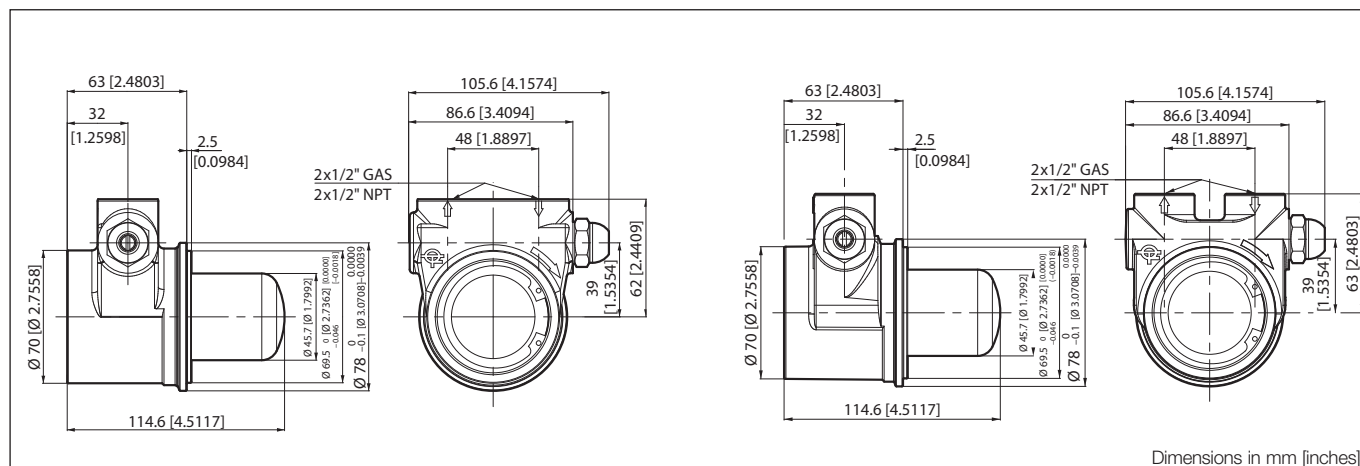


#### MAIN APPLICATIONS

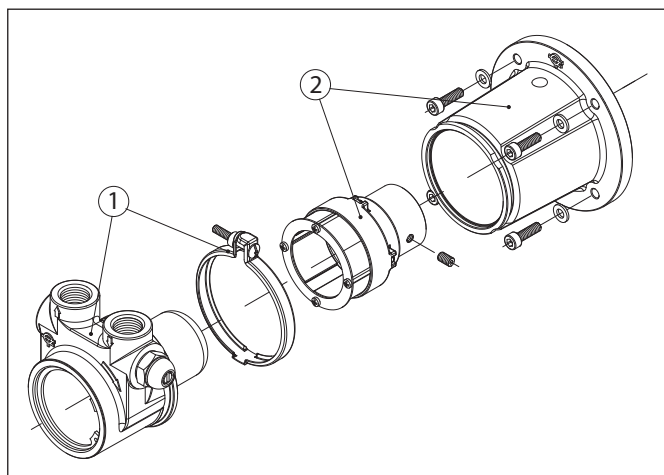
- Cooling systems
- Booster systems
- Water treatment
- Solar systems

#### TECHNICAL INFORMATION

|                       |                          |                     |                 |
|-----------------------|--------------------------|---------------------|-----------------|
| Pump housing material | Brass or stainless steel | Speed limit         | 1725 rpm        |
| Pumping chamber       | Carbon graphite          | Max static pressure | 20 bar/290 psi  |
| Ports                 | 1/2" GAS or NPT          | Pump weight         | 2.1 kg (4.6 lb) |



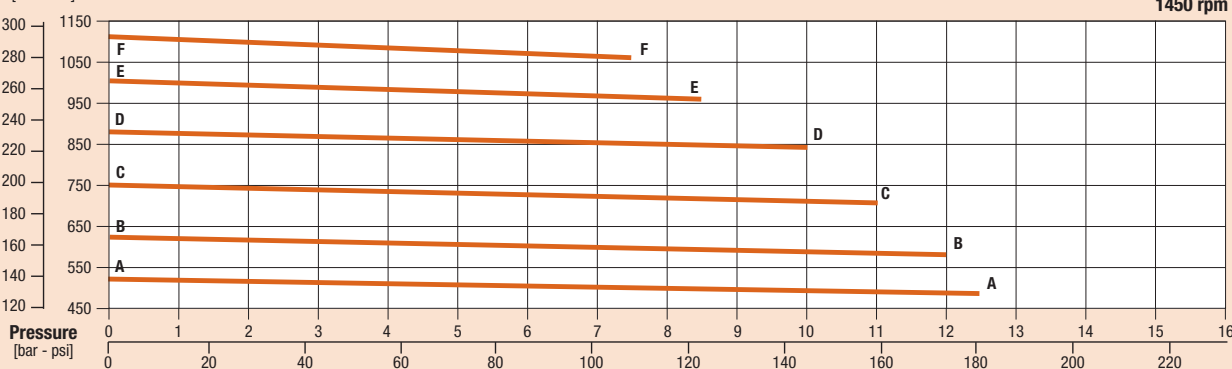
# Brass and stainless steel magnet drive rotary vane pumps TH 500-1000 series



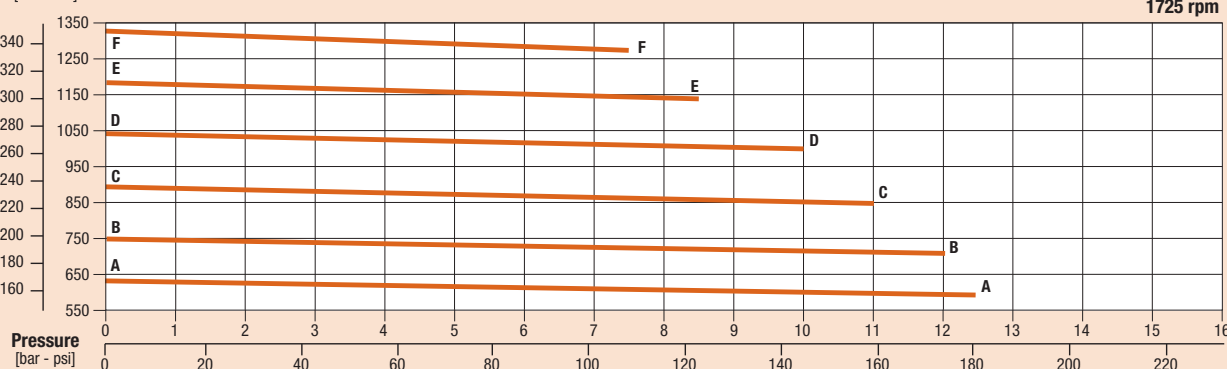
| POS | DESCRIPTION                                                                     | CODE               |
|-----|---------------------------------------------------------------------------------|--------------------|
| 1   | TH series pump                                                                  |                    |
| 2   | M80-B14 frame motor mounting assembly<br>NEMA 56C frame motor mounting assembly | THBS80C<br>THBS5BC |

| MODEL     | RELIEF VALVE | HOUSING         | FIGURE |
|-----------|--------------|-----------------|--------|
| THSS500A  | NO           | STAINLESS STEEL | A-A    |
| THSS600A  |              |                 | B-B    |
| THSS700A  |              |                 | C-C    |
| THSS800A  |              |                 | D-D    |
| THSS900A  |              |                 | E-E    |
| THSS1000A |              |                 | F-F    |
| THSS501A  | STANDARD     | STAINLESS STEEL | A-A    |
| THSS601A  |              |                 | B-B    |
| THSS701A  |              |                 | C-C    |
| THSS801A  |              |                 | D-D    |
| THSS901A  |              |                 | E-E    |
| THSS1001A |              |                 | F-F    |
| THOT500A  | NO           | BRASS           | A-A    |
| THOT600A  |              |                 | B-B    |
| THOT700A  |              |                 | C-C    |
| THOT800A  |              |                 | D-D    |
| THOT900A  |              |                 | E-E    |
| THOT1000A |              |                 | F-F    |
| THOT501A  | STANDARD     | BRASS           | A-A    |
| THOT601A  |              |                 | B-B    |
| THOT701A  |              |                 | C-C    |
| THOT801A  |              |                 | D-D    |
| THOT901A  |              |                 | E-E    |
| THOT1001A |              |                 | F-F    |

Flow rate  
[GPH - l/h]



Flow rate  
[GPH - l/h]



Note: Characteristics with water at 20 °C (68 °F) and without bypass - Use filter before pump inlet not larger than 20 microns.  
For applications involving other fluids, high temperatures, unusual processing conditions or speed higher than 1725 rpm consult the factory or an authorized Fluid-o-Tech distributor.

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# Unità pompa-motore a trascinamento magnetico serie HA

Le pompe rotative della serie HA, versione a trascinamento magnetico delle pompe della serie GA, sono realizzate in acciaio inossidabile e grafite e sono disponibili in una interessante gamma di versioni per coprire le basse portate.

Le dimensioni particolarmente compatte - che fanno di questa serie la più piccola delle pompe rotative Fluid-o-Tech® - e le motorizzazioni in corrente continua rendono l'unità particolarmente versatile e adatta all'utilizzo in impianti sia domestici che professionali.

L'assenza di tenuta garantisce il totale contenimento del fluido, mentre l'accoppiamento magnetico garantisce l'allineamento tra pompa e motore, rendendo l'unità più silenziosa, efficiente dal punto di vista energetico e altamente affidabile.



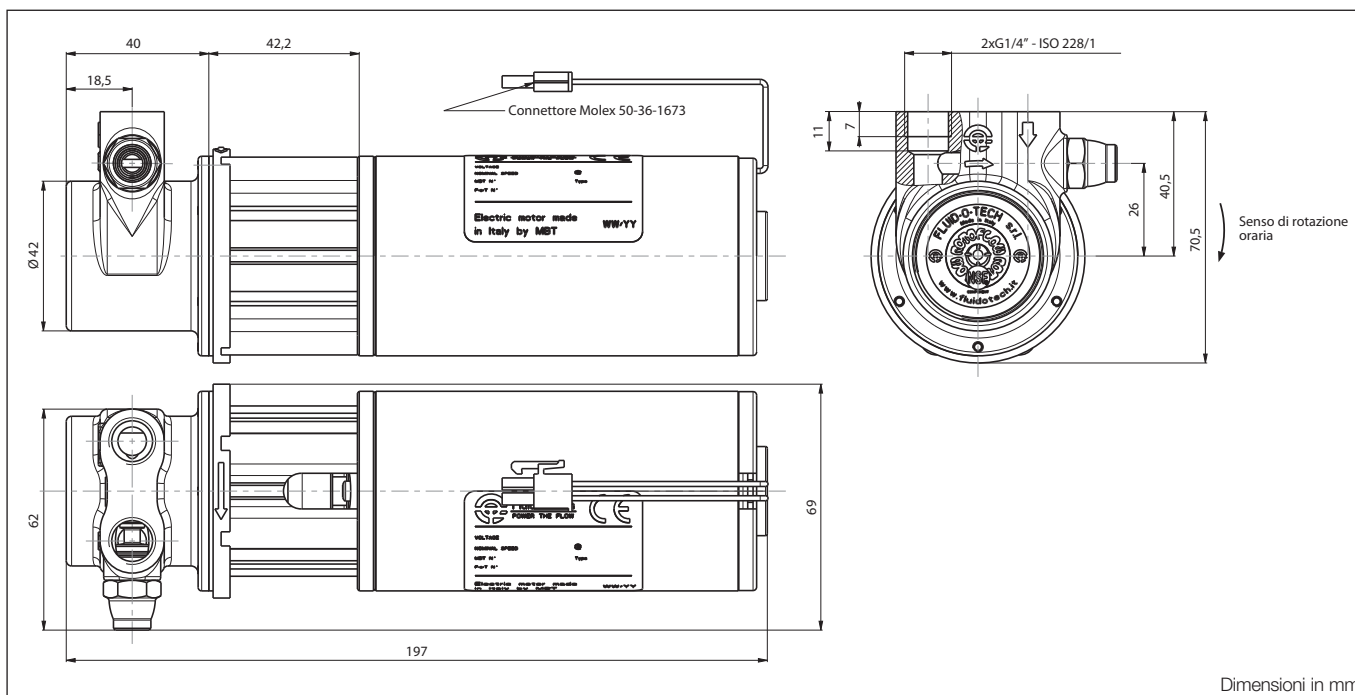
## APPLICAZIONI PRINCIPALI

- Caffè espresso
- Sistemi di trattamento acqua

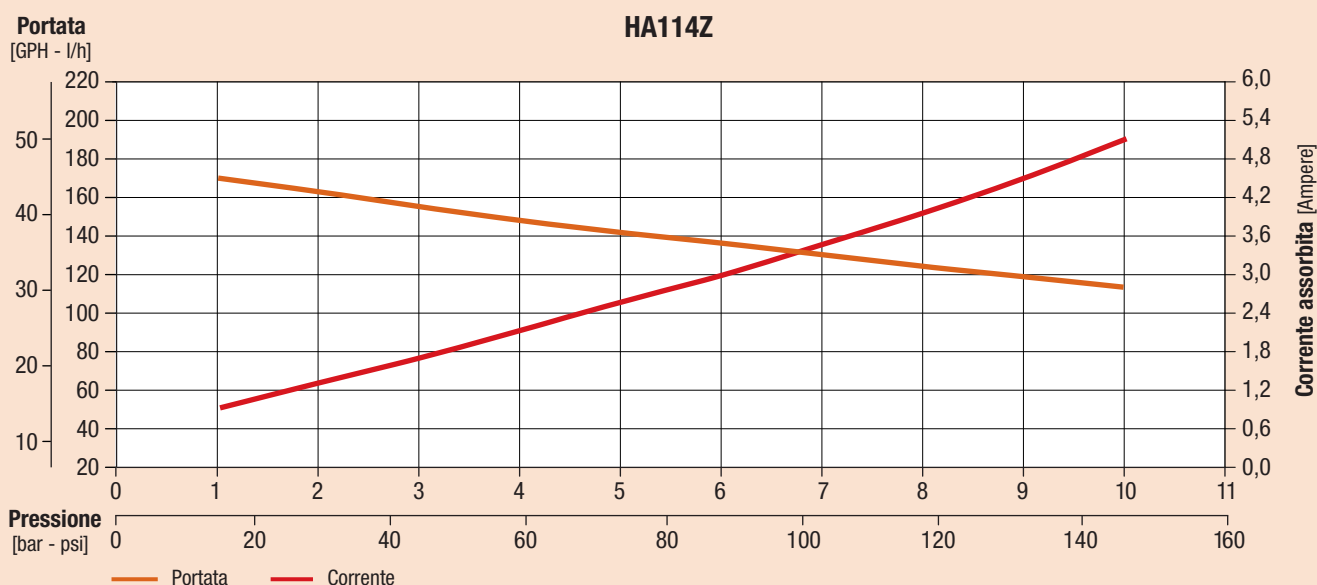
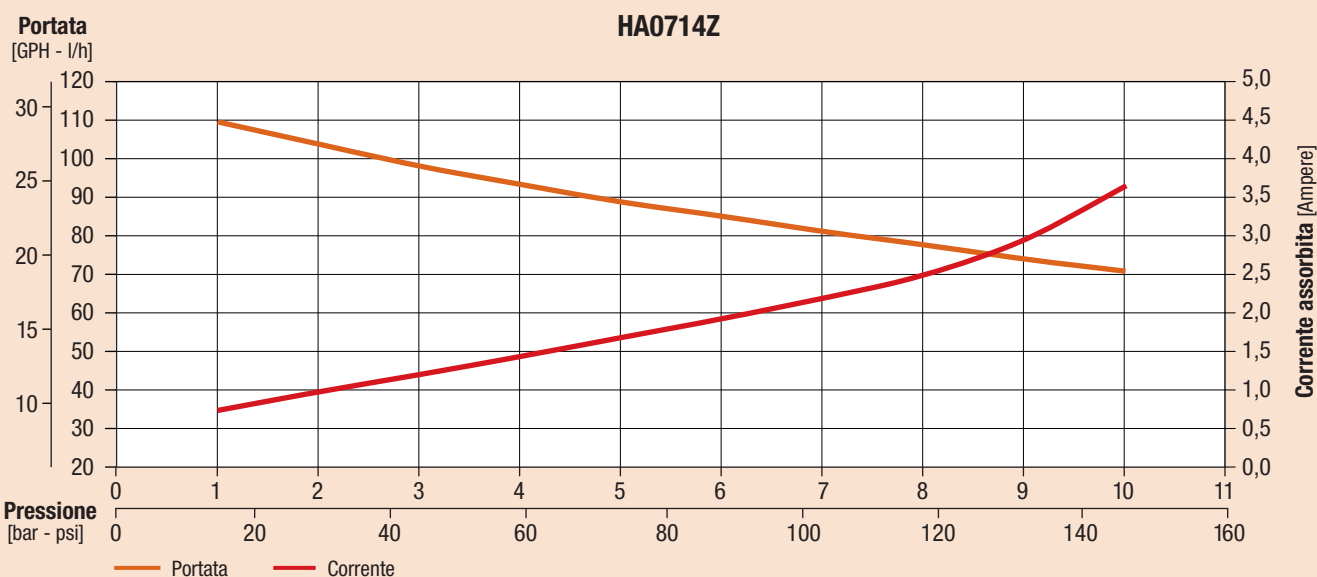


## INFORMAZIONI TECNICHE

|                       |                      |                           |            |
|-----------------------|----------------------|---------------------------|------------|
| Materiale corpo pompa | Acciaio inossidabile | Pressione statica massima | 10 bar     |
| Camera pompante       | Grafite              | Valvola di sicurezza      | Bilanciata |
| Conessioni            | 1/4 GAS"; 1/4" NPT   | Peso unità                | 1600 gr    |
| Velocità nominale     | 3000 rpm             |                           |            |



Dimensioni in mm



Note: Prestazioni idrauliche misurate con acqua a 20°C (68 F) e valvola di sicurezza bloccata.

Per applicazioni con altri fluidi, con alte temperature o condizioni di lavoro inusuali, consultare l'azienda o un distributore autorizzato Fluid-o-Tech.

Fluid-o-Tech si riserva il diritto di modificare le specifiche indicate in questo manuale in qualsiasi momento e senza preavviso.

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# Magnetic drive rotary vane pump-motor units TMCF01S-TMCF07S series

Fluid-o-Tech® has combined its expertise in rotary vane pumps and magnet drives to exclusively manufacture this series of pumps. The principle of the magnet drive is the driving force of the pole-to-pole alignment of two magnets.

The driven magnet is fixed to the pump shaft, while the driving magnet is fixed to the motor shaft and closely located to the driven magnet. By means of magnet attraction, the pump rotates in response to motor shaft rotation.

Available in 6 different displacements, with either a brass or stainless steel housing, AISI 303 rotor, carbon graphite pumping chamber and 3/8" GAS or NPT threaded ports, this pump line may be equipped, upon request, with standard or balanced built-in relief valve and NBR, EPDM or Viton® seals.

**Compared to conventional coupling, the magnet drive has several advantages:**

- 1) Longer service life
- 2) No leaks or contamination
- 3) Noiseless operation
- 4) No contact between pump and motor shaft
- 5) Higher efficiency

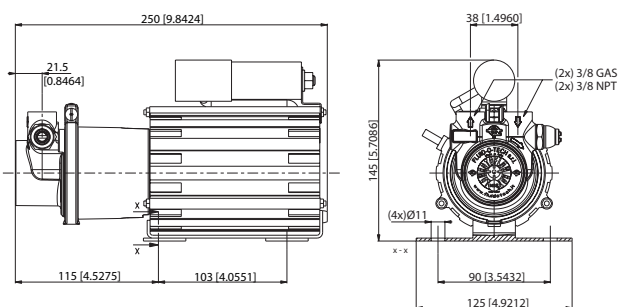
- Max system pressure: 18 bar (260 psi)
- Max temperature: 70 °C (158 F)



## MAIN APPLICATIONS

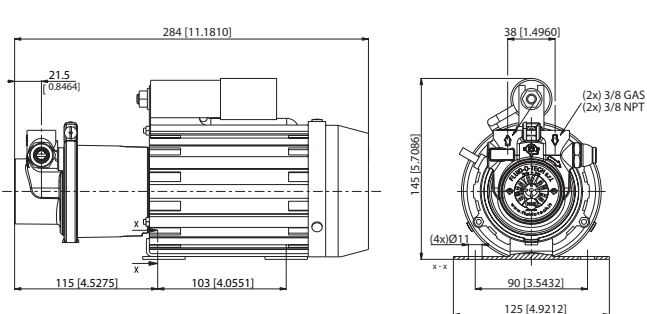
- Espresso coffee machines
- Soda circulation
- Reverse osmosis
- Solar heating systems
- Cooling systems
- Refrigerating gas transfer

### TMCF01S



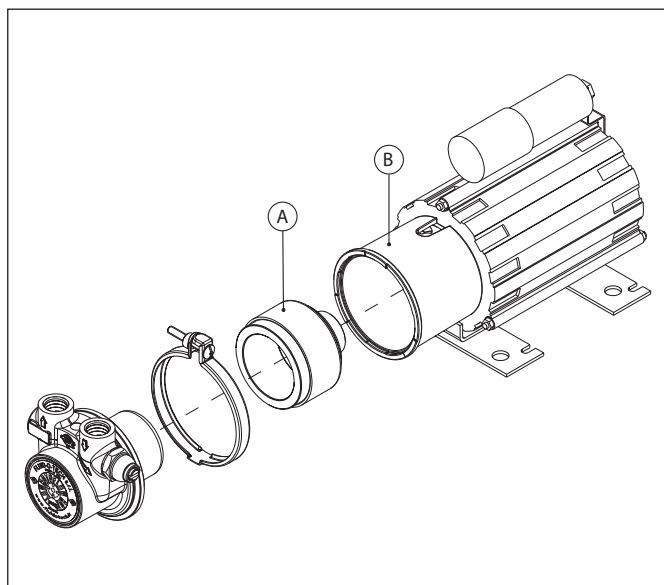
Dimensions in mm [inches]

### TMCF07S



Dimensions in mm [inches]

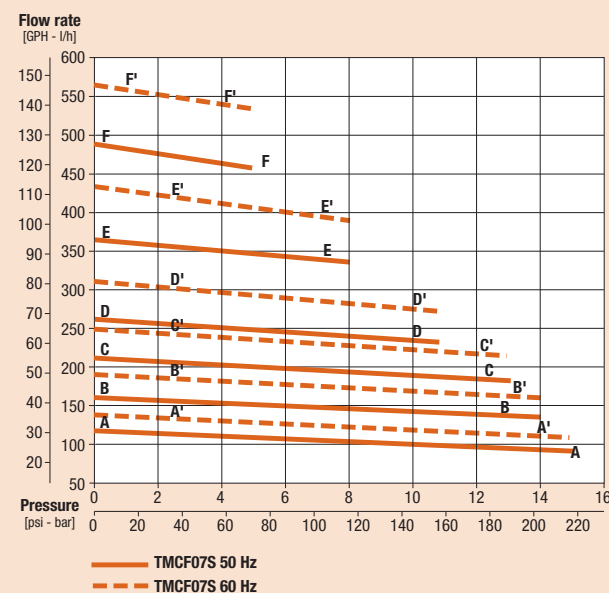
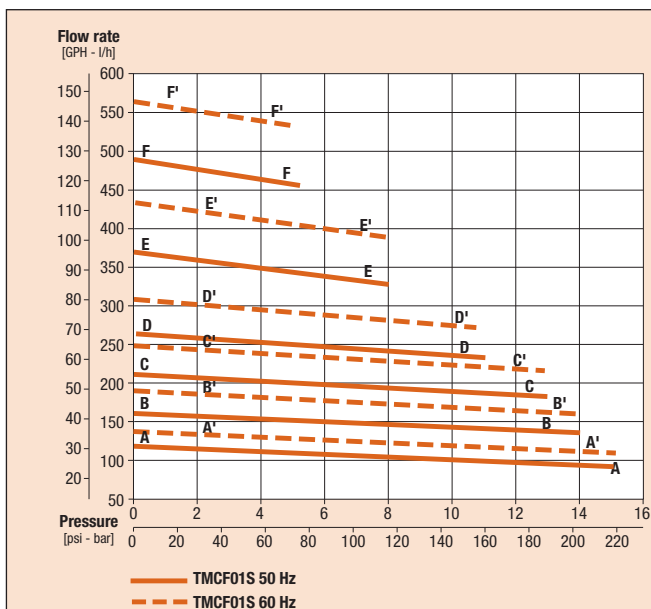
# Magnetic drive rotary vane pump-motor units TMCF01S-TMCF07S series



| DRIVING UNIT            | TMCF01S      | TMCF07S    |
|-------------------------|--------------|------------|
| Code                    | 6900128      | 6900338    |
| Voltage (V)             | 230 AC       | 230 AC     |
| Frequency (Hz)          | 50/60        | 50/60      |
| Poles                   | 2            | 2          |
| Rated speed (rpm)       | 2850/3400    | 2870/3450  |
| Current consumption (A) | 0.75         | 0.8        |
| Output power (W)        | 90           | 90         |
| Pump motor weight (kg)  | 5.6          | 5.7        |
| Duty                    | Intermittent | Continuous |

| POS. | DESCRIPTION                      | CODE    |         |
|------|----------------------------------|---------|---------|
| A    | 9 mm bore ferrite driving magnet | TMAF09S | TMAF09S |
| A+B  | Motor with PPS adapter           | TMCF01S | TMCF07S |

| MODEL   | RELIEF VALVE | HOUSING         | FIGURE |
|---------|--------------|-----------------|--------|
| TMSS030 | NO           | STAINLESS STEEL | A-A    |
| TMSS050 |              |                 | B-B    |
| TMSS070 |              |                 | C-C    |
| TMSS100 |              |                 | D-D    |
| TMSS150 |              |                 | E-E    |
| TMSS200 |              |                 | F-F    |
| TMSS031 | STANDARD     | STAINLESS STEEL | A-A    |
| TMSS051 |              |                 | B-B    |
| TMSS071 |              |                 | C-C    |
| TMSS101 |              |                 | D-D    |
| TMSS151 |              |                 | E-E    |
| TMSS201 |              |                 | F-F    |
| TMOT030 | NO           | BRASS           | A-A    |
| TMOT050 |              |                 | B-B    |
| TMOT070 |              |                 | C-C    |
| TMOT100 |              |                 | D-D    |
| TMOT150 |              |                 | E-E    |
| TMOT200 |              |                 | F-F    |
| TMOT031 | STANDARD     | BRASS           | A-A    |
| TMOT051 |              |                 | B-B    |
| TMOT071 |              |                 | C-C    |
| TMOT101 |              |                 | D-D    |
| TMOT151 |              |                 | E-E    |
| TMOT201 |              |                 | F-F    |
| TMOT034 | BALANCED     | BRASS           | A-A    |
| TMOT054 |              |                 | B-B    |
| TMOT074 |              |                 | C-C    |
| TMOT104 |              |                 | D-D    |
| TMOT154 |              |                 | E-E    |
| TMOT204 |              |                 | F-F    |



Note: Characteristics with water at 20 °C (68 F) and without bypass. Use filter before pump inlet not larger than 20 microns.  
For applications involving other fluids, high temperatures or unusual processing conditions, please consult the factory or an authorized Fluid-o-Tech distributor.

Fluid-o-Tech reserves the right to alter the specifications indicated in this catalogue at any time and without prior notice.

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