

# MEHRER DIAPHRAGM COMPRESSORS

## SERIES MRx, MLx, MHx



# OUR EXPERIENCE – YOUR BENEFITS

## Technical Data

| Series<br>Description                    | MRx 300, MLx 300, MHx 300<br>1- and 2-stage | MRx 400, MLx 400, MHx 400<br>1- and 2-stage | MRx 500, MHx 500<br>1- and 2-stage |
|------------------------------------------|---------------------------------------------|---------------------------------------------|------------------------------------|
| Max. compression ratio per stage         | 1:10                                        | 1:10                                        | 1:10                               |
| Min. suction pressure                    | 1,0 bara                                    | 1,0 bara                                    | 1,0 bara                           |
| Max. final pressure                      | 1200 bara                                   | 1000 bara                                   | 1000 bara                          |
| Max. drive power on the shaft            | 11                                          | 30                                          | 55                                 |
| Speed range                              | ~ 400                                       | ~ 400                                       | ~ 400                              |
| Arrangement of the cylinders             | Vertical, Horizontal, L-design              | Vertical, Horizontal, L-design              | Vertical, Horizontal               |
| Type of drive                            | Belt driven                                 | Belt driven                                 | Belt driven                        |
| Compression of toxic and flammable gases | Possible                                    | Possible                                    | Possible                           |
| Compressor cooling *                     | Air or water cooled                         | Water cooled                                | Water cooled                       |

\* Compressor cooling depends on application case

### COMPRESSOR HEAD

- Resistant against corrosive and aggressive gases due to stainless steel

### GAS VALVES

- Spring-loaded plate valves made of stainless steel
- Customized to your specific application

### OIL DISTRIBUTION PLATE

- For the stabilization of the diaphragm within the suction mode
- For the ideal oil-flow distribution within the compression mode

### DIAPHRAGM

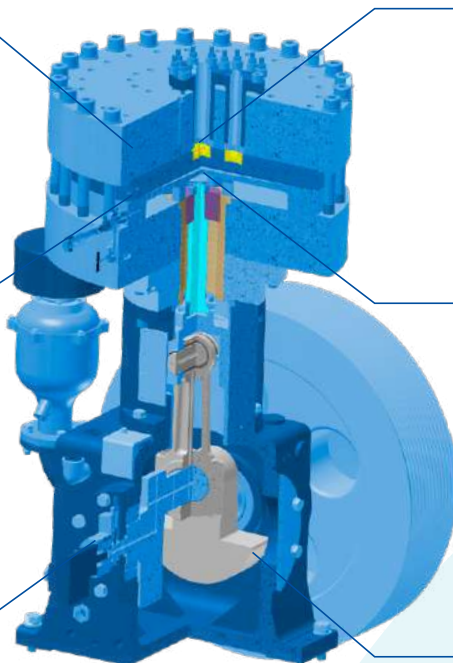
- Triple sandwich diaphragm
- With integrated sensors
- 100% barrier between the gas and hydraulic part of the compressor
- Avoidance of gas leakage at any time

### OIL COMPENSATION PUMP

- Assures an ideal oil pressure in the hydraulic part of the compressor

### CRANK CASE

- Extremely robust and oil lubricated
- Crank shaft mounted on anti-friction bearing



## Your Benefits

- 100% oil-free compression without the use of filters
- Leakage rate < 10<sup>-5</sup> mbar l/s
- Suitable for all gases
- Low noise level
- Durable, efficient and robust compressors
- Low compression temperature

### MRx 1300, MHx 1300 1- and 2-stage

1:10

1,0 bara

1000 bara

160

~ 400

Vertical, Horizontal

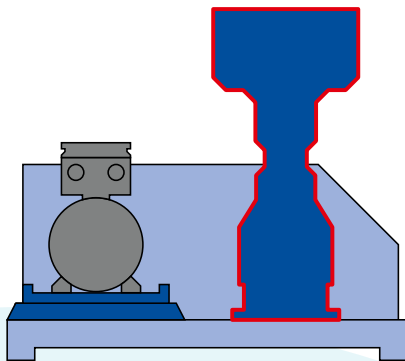
Belt driven

Possible

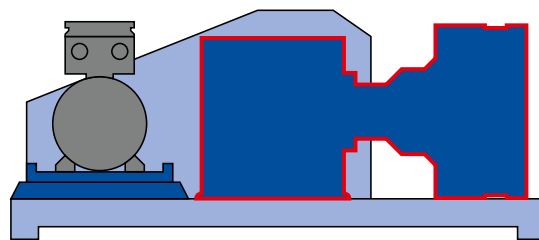
Water cooled

## Functional Basics

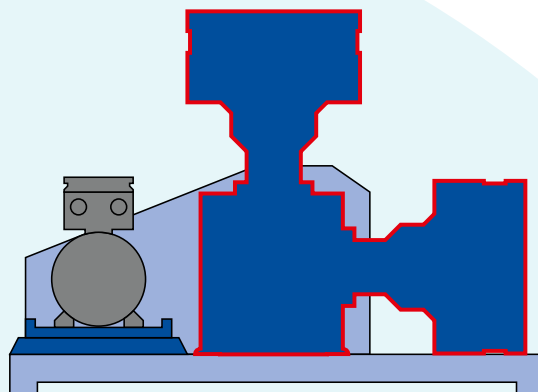
- Piston stroke transmission to the triple sandwich diaphragm on hydromechanical basis
- Diaphragm and gas valves follow the rhythm of the piston stroke
- Oil compression pump assures an ideal oil volume between piston and diaphragm
- Oil recirculation for piston lubrication adjusted by a pressure regulation valve



Vertical design (MRx)



Horizontal design (MHx)



L-design (MLx)

# MEHRER COMPRESSORS – IN USE WORLDWIDE

- Competence in Compression for  
**TRAILER AND BOTTLE FILLING**

|                      |                        |
|----------------------|------------------------|
| Compressor type      | MHE 400-22Ex           |
| Year of construction | 2017                   |
| Type of gas          | Hydrogen               |
| Delivery capacity    | 173 Nm <sup>3</sup> /h |
| Suction pressure     | 40–100 bar (ü)         |
| Final pressure       | 350 bar (ü)            |
| Drive power          | 22 kW                  |



- Competence in Compression of  
**INFLAMMABLE AND HIGHLY TOXIC  
GASES** up to 1000 bar

|                      |                        |
|----------------------|------------------------|
| Compressor type      | MRE 400-18,5Ex         |
| Year of construction | 2017                   |
| Type of gas          | SiH <sub>4</sub>       |
| Delivery capacity    | 130 Nm <sup>3</sup> /h |
| Suction pressure     | 2,4 bar (g)            |
| Final pressure       | 9–11,5 bar (g)         |
| Drive power          | 18,5 kW                |



- Competence in Compression of  
**HYDROGEN**

|                      |                       |
|----------------------|-----------------------|
| Compressor type      | MRE 300-7,5Ex         |
| Year of construction | 2017                  |
| Type of gas          | Hydrogen              |
| Delivery capacity    | 10 Nm <sup>3</sup> /h |
| Suction pressure     | 9–10 bar (g)          |
| Final pressure       | 60 bar (g)            |
| Drive power          | 11,5 kW               |





 *processes' heartbeat*  
[www.mehrer.de](http://www.mehrer.de)