



**JOHNSON PUMP**  
AN SPX BRAND

# MDR

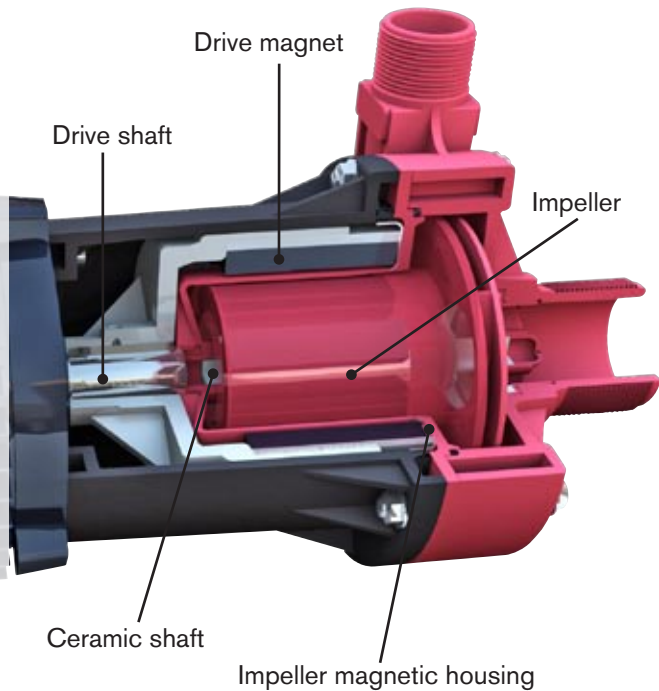
## Seal-less Centrifugal Pumps



**SPX**<sup>®</sup>

## Design features

- No shaft seal
- High chemical resistance
- Liquid not in contact with any metal
- Wide range of application fields
- Compact design
- Easy maintenance
- Standard electric motors (IEC)



## Operating principle

The drive magnet attached to the drive shaft transfers its torque to the impeller magnet. The impeller then rotates around its ceramic shaft on the impeller body – without any physical contact between the drive shaft and the pump body.

No shaft seal to leak, wear or replace!

## Applications

Johnson Pump MDR magnetic drive centrifugal pumps are seal-less and chemically resistant, making them ideal for transporting aggressive, hazardous and valuable liquids.

Surface treatment, water purification and cleaning, photo development, battery production, paper industry, CIP and soap production are just a few of the application areas where MDR excels.

## Density

Two different types of impellers are available for maximum density

- -1V for maximum 1.2 kg/dm<sup>3</sup>
- -1VD for maximum 1.8 kg/dm<sup>3</sup>

## Motors

The pumps are delivered with three-phase standard foot-mounted motors with small IEC-flanges. For the smaller pumps—MDR45 and MDR75—single phase motors can be provided.

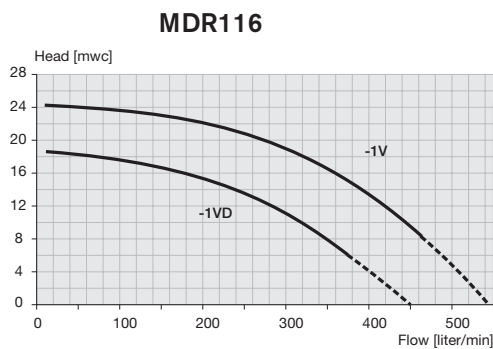
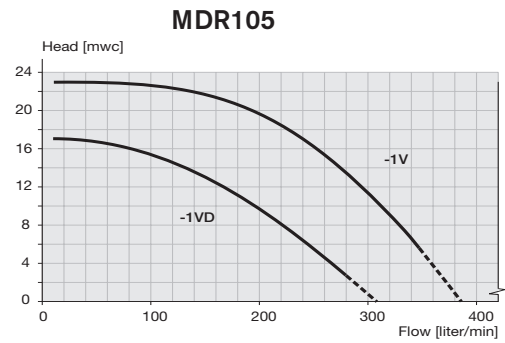
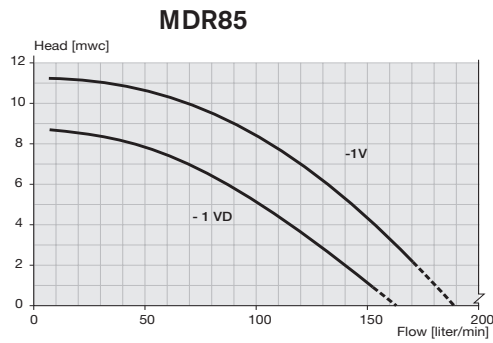
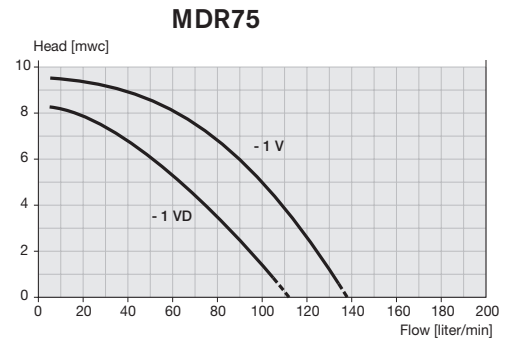
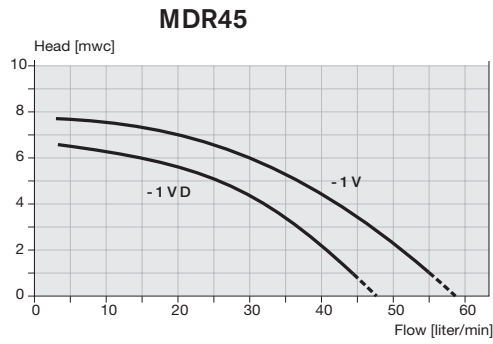
The flange between the motor and pump body is made of PP for improved chemical resistance.

## Materials

- All wetted parts are made of non-metallic materials.
- Pump body and magnetic housing are moulded in the plastic materials PP or PVDF.
  - PP (P3) = Fiberglass reinforced Polypropylene
  - PVDF (P2) = Carbon Filled Polyvinylidene Fluoride
- Impeller magnets are fully encapsulated in the plastic impeller of PP or PVDF – *for maximum chemical resistance*
- Shaft end and thrust washers are made of high quality ceramic, impeller bearings of Rulon® – *for optimal service life*
- Viton® O-ring between pump body and magnet housing – *resistant to most chemicals*
- Other O-ring materials on request



# Capacity curves



Based on water at 20°C, 50Hz, 2800rpm

Maximum density of pumped media:

Impeller -1V = 1.2 kg/dm<sup>3</sup>

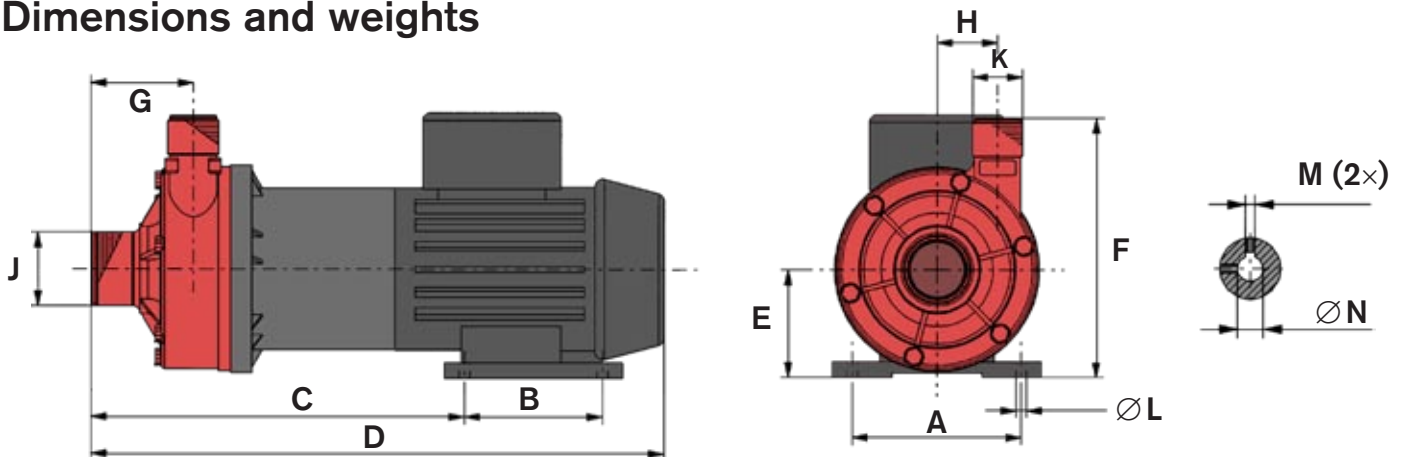
Impeller -1VD = 1.8 kg/dm<sup>3</sup>

Maximum temperature:

PP = +85°C

PVDF = +100°C

# Dimensions and weights



	A	B	C	D	E	F	G	H	J male	K male	L	M	N	Weight, kg	
														Compl pump	Head kit
MDR45P-1V/-VD	90	71	166	272	56	130	44	35	BSP1"	BSP1/2"	5.8	M6	9	4.5	1.2
MDR75P-1V/-VD	100	80	191.5	322	63	141	60	37	BSP1.1/4"	BSP3/4"	7	M5	11	5.8	1.5
MDR85P-1V/-VD	112	90	242	373	71	171	66	40	BSP1.1/2"	BSP1"	7	M5	14	10.3	2.9
MDR105P-1V/-VD	140	100	319.5	490	90	222	93	58.5	BSP2"	BSP1.1/4"	10	M8	24	23.6	7.2
MDR116P-1V/-VD	140	125	319.5	512	90	222	93	58.5	BSP2"	BSP1.1/4"	10	M8	24	26.6	7.2

Dimensions in mm



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