



## **MANN+HUMMEL coolant expansion tanks**

### **The modular MCR product range**



# The unique modular MCR product range

## Modular Coolant Reservoir (MCR)

MANN+HUMMEL has been developing customised coolant expansion tanks for automotive and industrial OEM applications for more than 20 years. We recommend a customised development for customers with high volumes.

For the first time the new product range combines our longstanding expertise in this segment with the technology of modular product families. This means customers with small to medium volumes can now also benefit from tailor made coolant expansion tanks off the shelf.

Using our experience we have used the 20,000 configuration possibilities offered by the MCR modular product range to generate 24 standard products, which are available on stock.



## Why MCR – the market situation

### Customer requirements: no standardisation

Coolant expansion tanks are usually considered at the end of the engine and engine compartment planning and have to be adapted to meet the available space. At the same time they have to be fine-tuned to the respective application and the respective operating conditions. As a result there are no standardised coolant expansion tanks available on the market. The existing options are:

commission a new tank, look for a suitable alternative or design one yourself. These solutions require a compromise in terms of time, costs and quality.

The new MCR product range from MANN+HUMMEL combines the advantages of today's market solutions to eliminate these disadvantages.

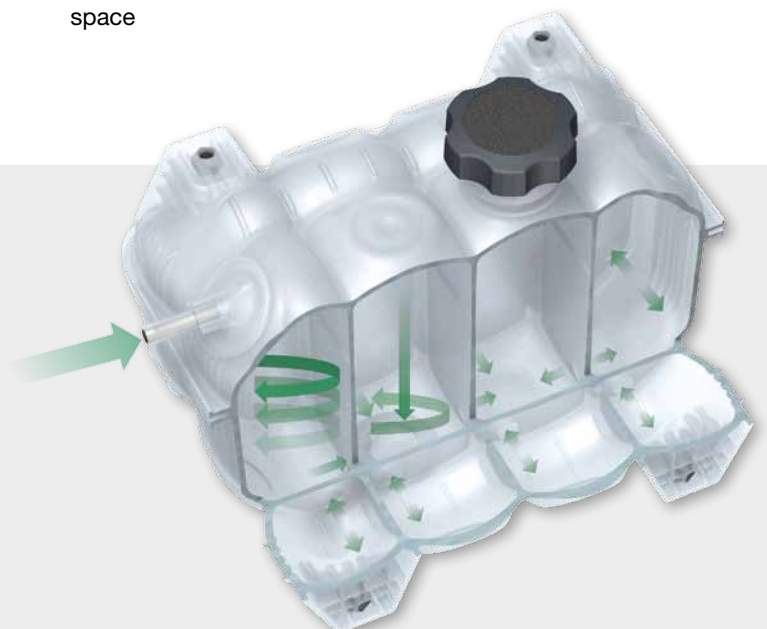
### The advantages of the MCR product range:

- available at short notice (24 standard products on stock)
- no development or tooling costs
- also economic for low volumes
- very good value for money
- excellent flexibility regarding installation space
- easy to fit
- adaptable to special applications
- robust design suitable for heavy duty applications
- proven MANN+HUMMEL quality

## The de-gassing function

### Keeping the air out

The advanced flow configuration of the new MANN+HUMMEL MCR product range avoids the formation of air bubbles in the coolant expansion tank and cooling system. This enables an excellent cooling function which serves to protect the engine.



# MCR – Applications

## Extremely versatile

The MCR product range offers high flexibility with regard to the available installation space and covers a wide range of engine outputs. This makes the MCR product range suitable for almost all machines with combustion engines, e.g. for construction and agricultural machines, stacker trucks, mobile and stationary compressors, etc.



# MCR – Modular system

## 6 tank sizes from 1.5 to 8 litres

Using a low number of components, the clever modular system is able to generate 6 tank sizes.

The orientation of the tanks enables high installation space flexibility. The tanks can be fitted in a vertical or horizontal position.

## MCR 15 - MCR 35 product range

## MCR 36 - MCR 80 product range

Basic component 1



Basic component 2



Basic component 1

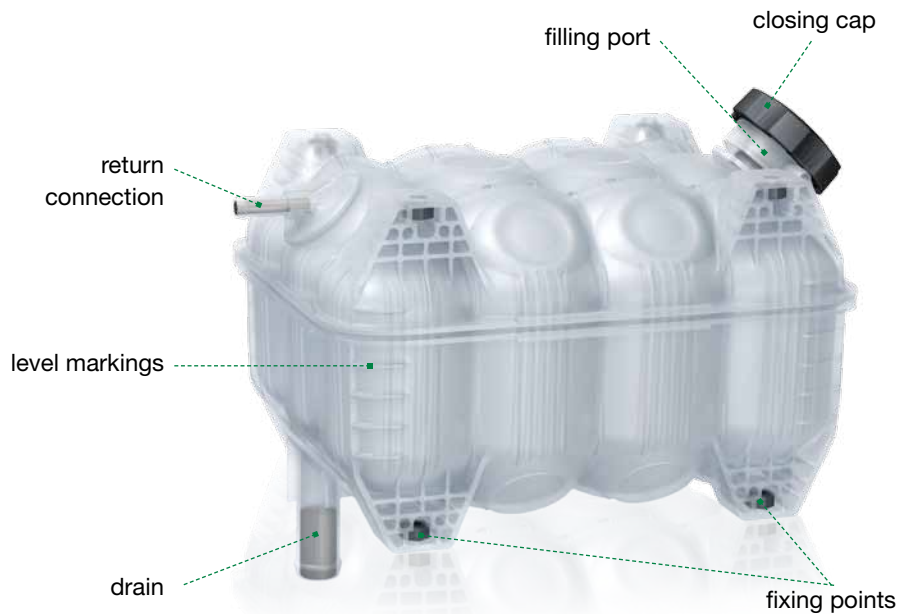


Basic component 2



| MCR 15 - MCR 35 product range – volumes: 1.5 to 3.5 litres |                  |                     |                  |                     |                  |
|--|------------------|---------------------|------------------|---------------------|------------------|
| MCR 15 – 1.5 litres  |                  | MCR 25 – 2.5 litres |                  | MCR 35 – 3.5 litres |                  |
|  |                  |                     |                  |                     |                  |
| horizontal fitting   | vertical fitting | horizontal fitting  | vertical fitting | horizontal fitting  | vertical fitting |
| MCR 36 - MCR 80 product range – volumes: 3.6 to 8 litres   |                  |                     |                  |                     |                  |
| MCR 36 – 3.6 litres  |                  | MCR 56 – 5.6 litres |                  | MCR 80 – 8 litres   |                  |
|  |                  |                     |                  |                     |                  |
| horizontal fitting   | vertical fitting | horizontal fitting  | vertical fitting | horizontal fitting  | vertical fitting |

# MCR – System components



## Option: electronic level sensor

On request the coolant expansion tank can also be equipped with an electronic level sensor.



### Filling port

- integrated overflow
- possibility to attach hose to overflow

### Closing cap

- double ring seal
- vacuum valve
- 1 bar overpressure valve
- cap compensates the expansion volume

### Level markings

- depending on the application and operating conditions, the level markings can be individually defined using MIN and MAX stickers.
- stickers included in scope of delivery
- additional markings on tank for visual inspection of level

### Fixing points

- excellent flexibility and reliable function
- tank can be fitted to flat surfaces in horizontal and vertical position
- up to 4 M8 screws can be used on each tank side
- 8 M8 nuts are supplied

### Drain and return connection

- secure connection between tank and hose
- robust design through integrated metal tubes

## Over 20,000 possibilities – 24 standard products



### 24 standard products

MANN+HUMMEL has 24 standard products available on stock. These versions are based on the most common applications and operating conditions.

### Alternative configurations

The modular product range allows over 20,000 different combination possibilities. Customised variations are available on request. All connections such as filling port, closing cap, drain and return connection can be freely positioned.

# MCR – Complete overview

## MCR 15

10 015 08 S01

10 015 15 S01

10 015 14 S01



## MCR 25

10 025 00 S01

10 025 02 S01

10 025 01 S01



## MCR 35

10 035 00 S01

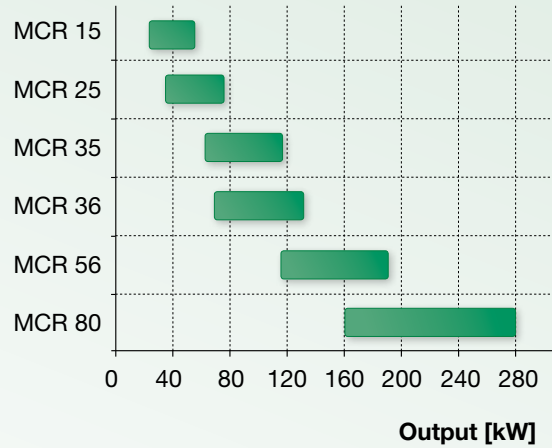
10 035 12 S01

10 035 11 S01



### Engine output range

The MCR product range covers engines with outputs up to 280 kW. The required volume of a coolant expansion tank essentially depends on the design of the machine and coolant circuit. MANN+HUMMEL will be happy to advise you on the configuration.



## MCR 36

10 036 00 S01

10 036 02 S01

10 036 03 S01

10 036 04 S01

10 036 05 S01



## MCR 56

10 056 00 S01

10 056 01 S01

10 056 02 S01

10 056 03 S01

10 056 04 S01



## MCR 80

10 080 00 S01

10 080 02 S01

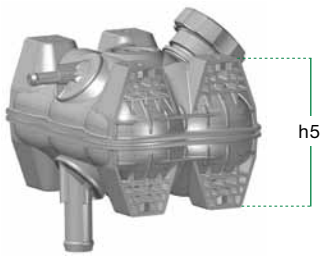
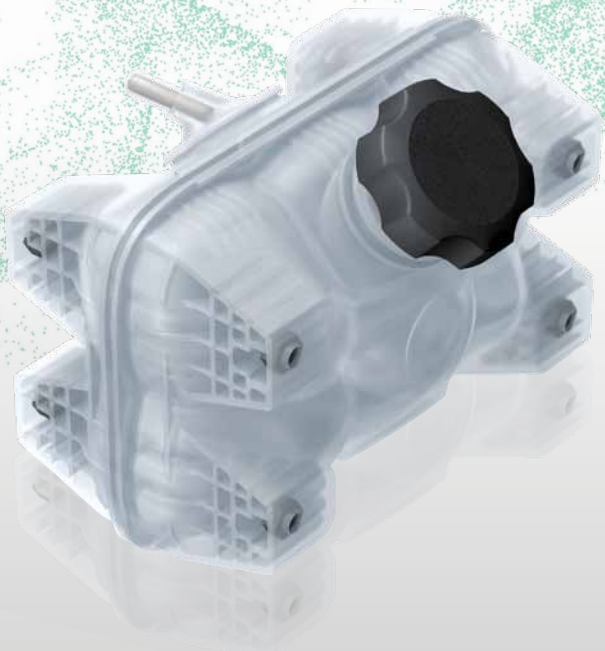
10 080 03 S01

10 080 04 S01

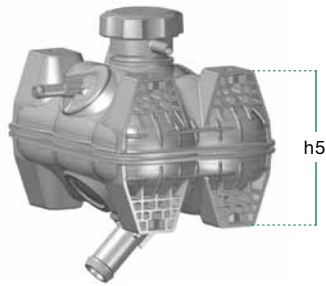
10 080 05 S01



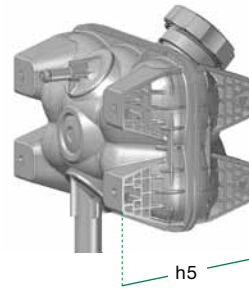
# MCR 15



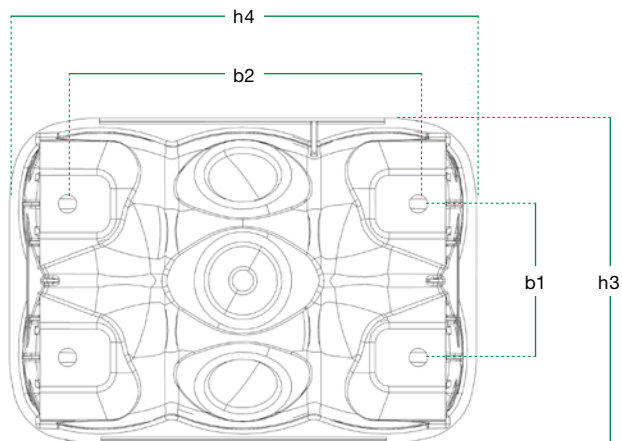
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10 015 15 S01



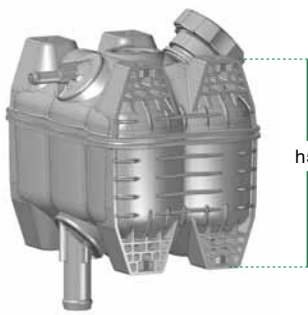
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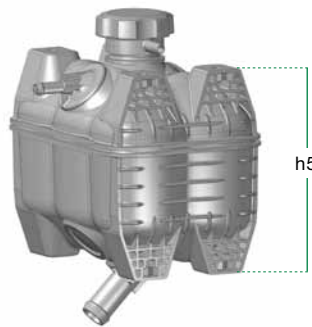
## MCR 15

| Order number  | Orientation | Volume | b1 (mm) | b2 (mm) | h3 (mm) | h4 (mm) | h5 (mm) | Weight |
|---------------|-------------|--------|---------|---------|---------|---------|---------|--------|
| 10 015 08 S01 | horizontal  | 1.5 l  | 70      | 160     | 150     | 215     | 115     | 0.7 kg |
| 10 015 15 S01 | horizontal  |        | 70      | 160     | 150     | 215     | 115     |        |
| 10 015 14 S01 | vertical    |        | 70      | 160     | 150     | 215     | 115     |        |

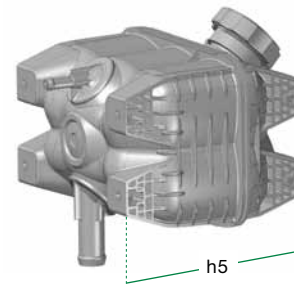
# MCR 25



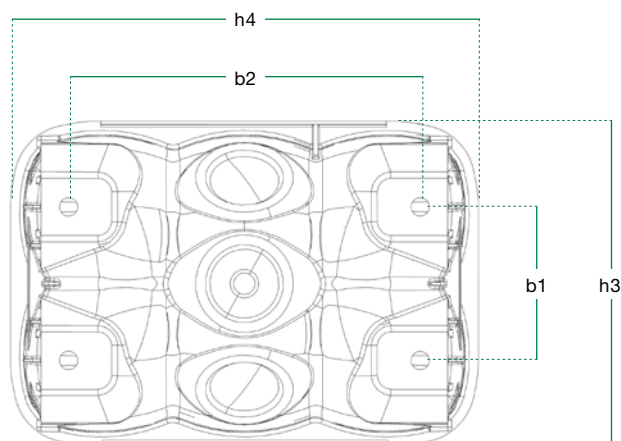
10 025 00 S01



10 025 02 S01



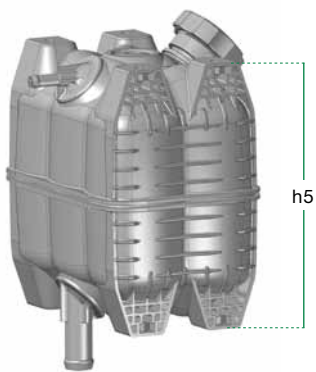
10 025 01 S01



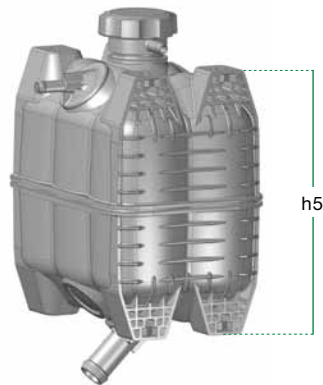
## MCR 25

| Order number  | Orientation | Volume | b1 (mm) | b2 (mm) | h3 (mm) | h4 (mm) | h5 (mm) | Weight |
|---------------|-------------|--------|---------|---------|---------|---------|---------|--------|
| 10 025 00 S01 | horizontal  | 2.5 l  | 70      | 160     | 150     | 215     | 171     | 0.9 kg |
| 10 025 02 S01 | horizontal  |        | 70      | 160     | 150     | 215     | 171     |        |
| 10 025 01 S01 | vertical    |        | 70      | 160     | 150     | 215     | 171     |        |

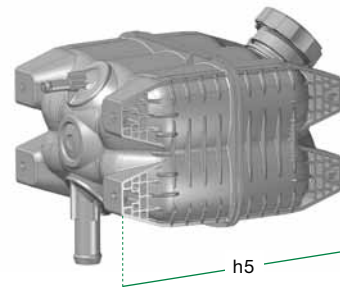
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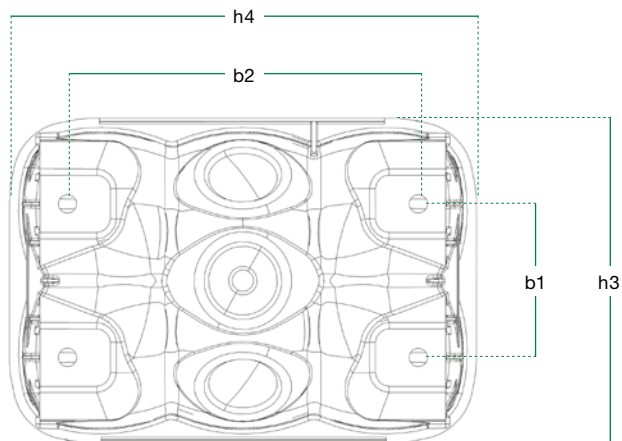
10 035 00 S01



10 035 12 S01



10 035 11 S01



## MCR 35

| Order number  | Orientation | Volume | b1 (mm) | b2 (mm) | h3 (mm) | h4 (mm) | h5 (mm) | Weight |
|---------------|-------------|--------|---------|---------|---------|---------|---------|--------|
| 10 035 00 S01 | horizontal  | 3.5 l  | 70      | 160     | 150     | 215     | 220     | 1.1 kg |
| 10 035 12 S01 | horizontal  |        | 70      | 160     | 150     | 215     | 220     |        |
| 10 035 11 S01 | vertical    |        | 70      | 160     | 150     | 215     | 220     |        |



# MCR 36



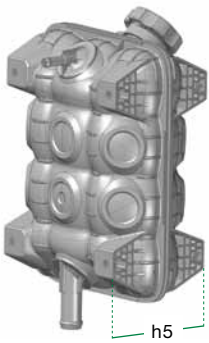
10 036 00 S01



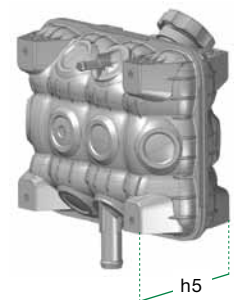
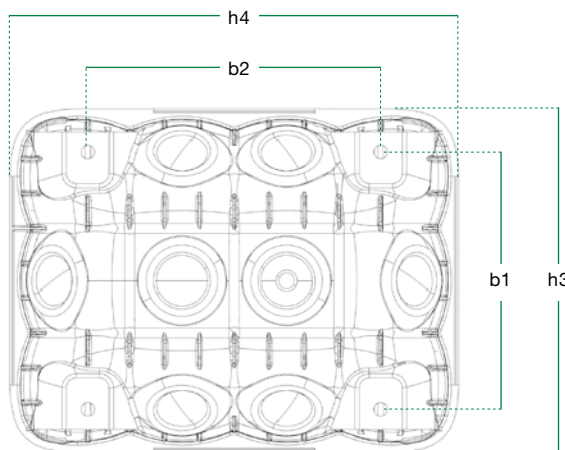
10 036 02 S01



10 036 03 S01



10 036 04 S01



10 036 05 S01

## MCR 36

| Order number  | Orientation | Volume | b1 (mm) | b2 (mm) | h3 (mm) | h4 (mm) | h5 (mm) | Weight |
|---------------|-------------|--------|---------|---------|---------|---------|---------|--------|
| 10 036 00 S01 | horizontal  | 3.6 l  | 160     | 182     | 215     | 280     | 122     | 1 kg   |
| 10 036 02 S01 | horizontal  |        | 160     | 182     | 215     | 280     | 122     |        |
| 10 036 03 S01 | horizontal  |        | 160     | 182     | 215     | 280     | 122     |        |
| 10 036 04 S01 | vertical    |        | 160     | 182     | 215     | 280     | 122     |        |
| 10 036 05 S01 | vertical    |        | 160     | 182     | 215     | 280     | 122     |        |

# MCR 56



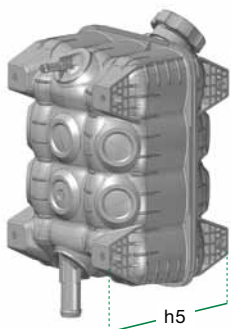
10 056 00 S01



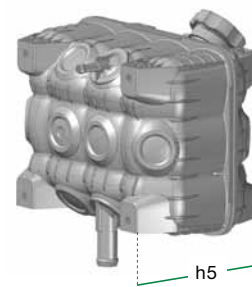
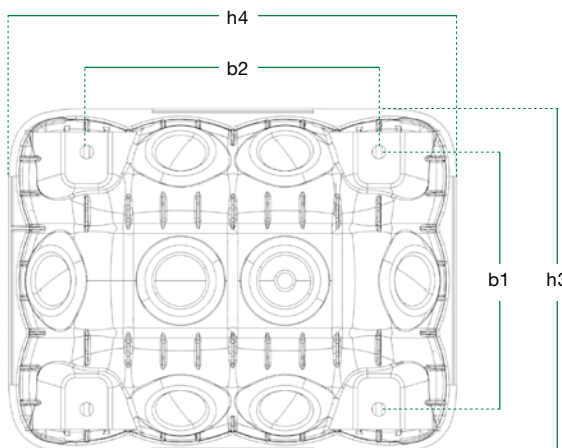
10 056 01 S01



10 056 02 S01



10 056 03 S01

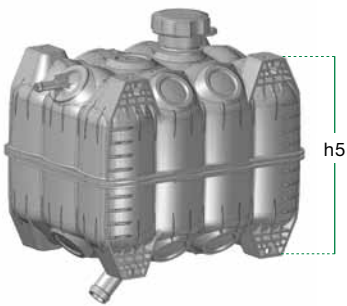


10 056 04 S01

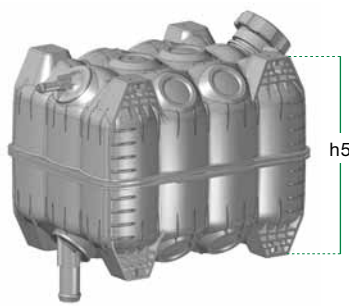
## MCR 56

| Order number  | Orientation | Volume | b1 (mm) | b2 (mm) | h3 (mm) | h4 (mm) | h5 (mm) | Weight |
|---------------|-------------|--------|---------|---------|---------|---------|---------|--------|
| 10 056 00 S01 | horizontal  | 5.6 l  | 160     | 182     | 215     | 280     | 171     | 1.3 kg |
| 10 056 01 S01 | horizontal  |        | 160     | 182     | 215     | 280     | 171     |        |
| 10 056 02 S01 | horizontal  |        | 160     | 182     | 215     | 280     | 171     |        |
| 10 056 03 S01 | vertical    |        | 160     | 182     | 215     | 280     | 171     |        |
| 10 056 04 S01 | vertical    |        | 160     | 182     | 215     | 280     | 171     |        |

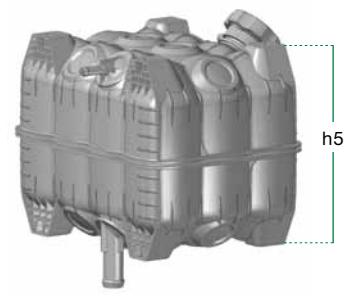
# MCR 80



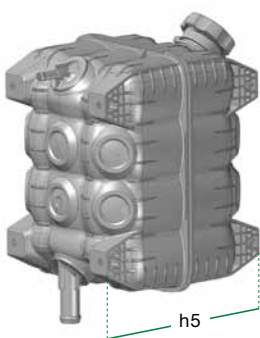
10 080 00 S01



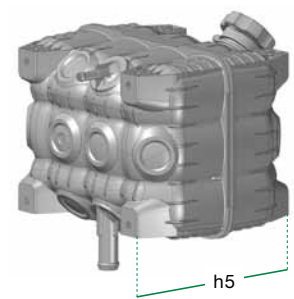
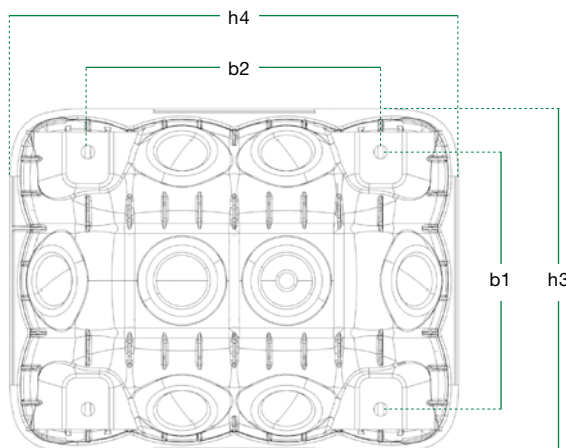
10 080 02 S01



10 080 03 S01



10 080 04 S01



10 080 05 S01

## MCR 80

| Order number  | Orientation | Volume | b1 (mm) | b2 (mm) | h3 (mm) | h4 (mm) | h5 (mm) | Weight |
|---------------|-------------|--------|---------|---------|---------|---------|---------|--------|
| 10 080 00 S01 | horizontal  | 8 l    | 160     | 182     | 215     | 280     | 220     | 1.6 kg |
| 10 080 02 S01 | horizontal  |        | 160     | 182     | 215     | 280     | 220     |        |
| 10 080 03 S01 | horizontal  |        | 160     | 182     | 215     | 280     | 220     |        |
| 10 080 04 S01 | vertical    |        | 160     | 182     | 215     | 280     | 220     |        |
| 10 080 05 S01 | vertical    |        | 160     | 182     | 215     | 280     | 220     |        |



- MANN+HUMMEL companies
- Joint venture companies

## MANN+HUMMEL Group

The MANN+HUMMEL Group is an international company and employs over 14,750 people at 50 locations worldwide.

The group develops, produces and distributes innovative technical components and systems for the automotive industry and many other industrial fields.

For more than 70 years the company has been a specialist for high quality filtration products for vehicles, engines and industrial applications and is a reliable partner in the OEM business to leading producers of vehicles, machines and installations. Filters for the international aftermarket are sold under numerous inter-

national brands as well as under the company's own MANN-FILTER brand.

### MANN+HUMMEL Industrial Filtration

The Industrial Filtration Business Unit with its headquarters in Speyer, Germany, specialises in meeting the requirements

of off-highway vehicle and engine applications, compressed air and vacuum technology, mechanical engineering and plant construction. For these and other industrial fields MANN+HUMMEL Industrial Filtration offers high performance products for the filtration and separation of air, gases and liquids.



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