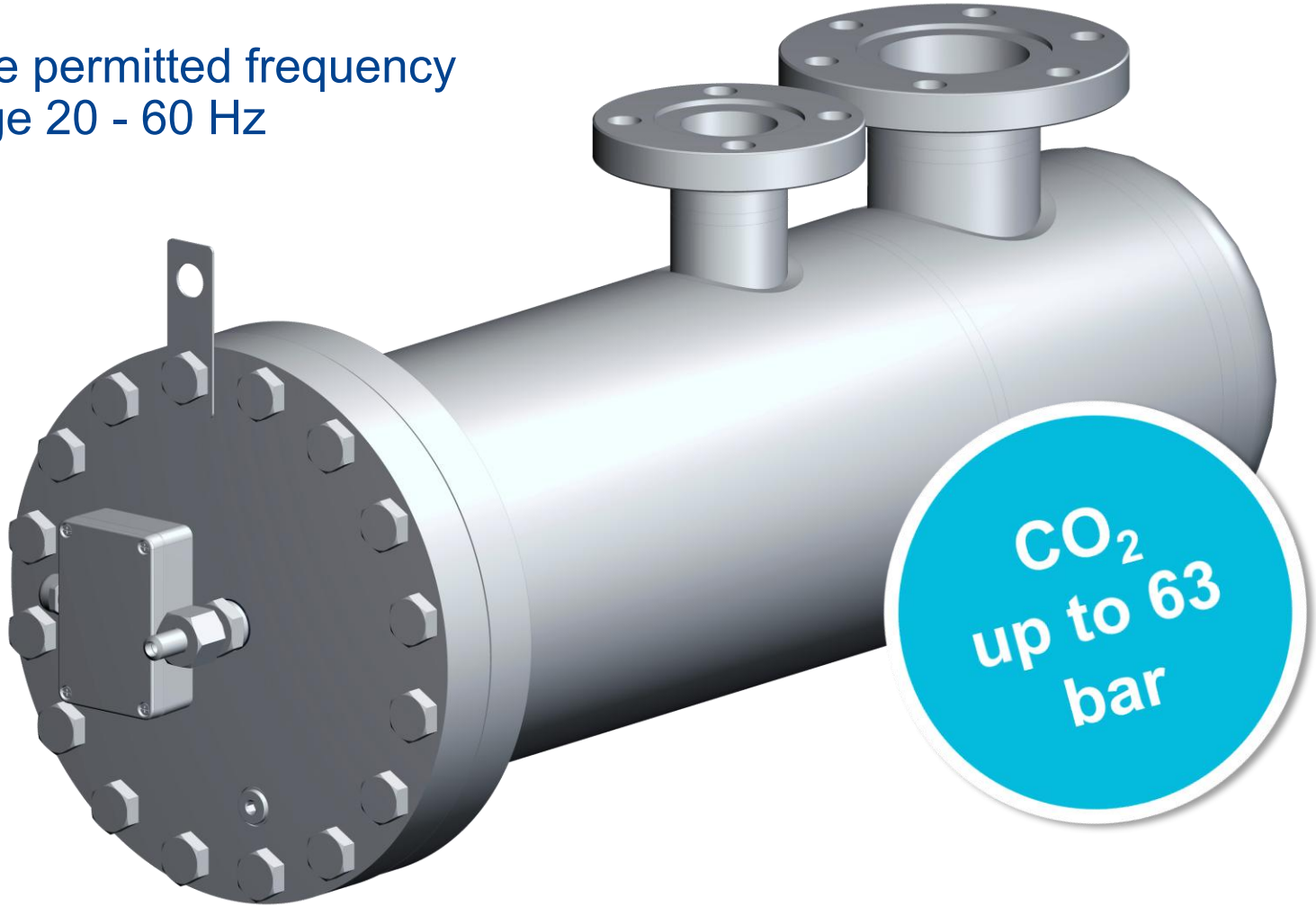
WITT Refrigeration Day

Natural Refrigerant Pump

NRP Refrigerant pump

- CO_2 35 m³/h and up to 115 m delivery head
  - Wide permitted frequency range 20 - 60 Hz

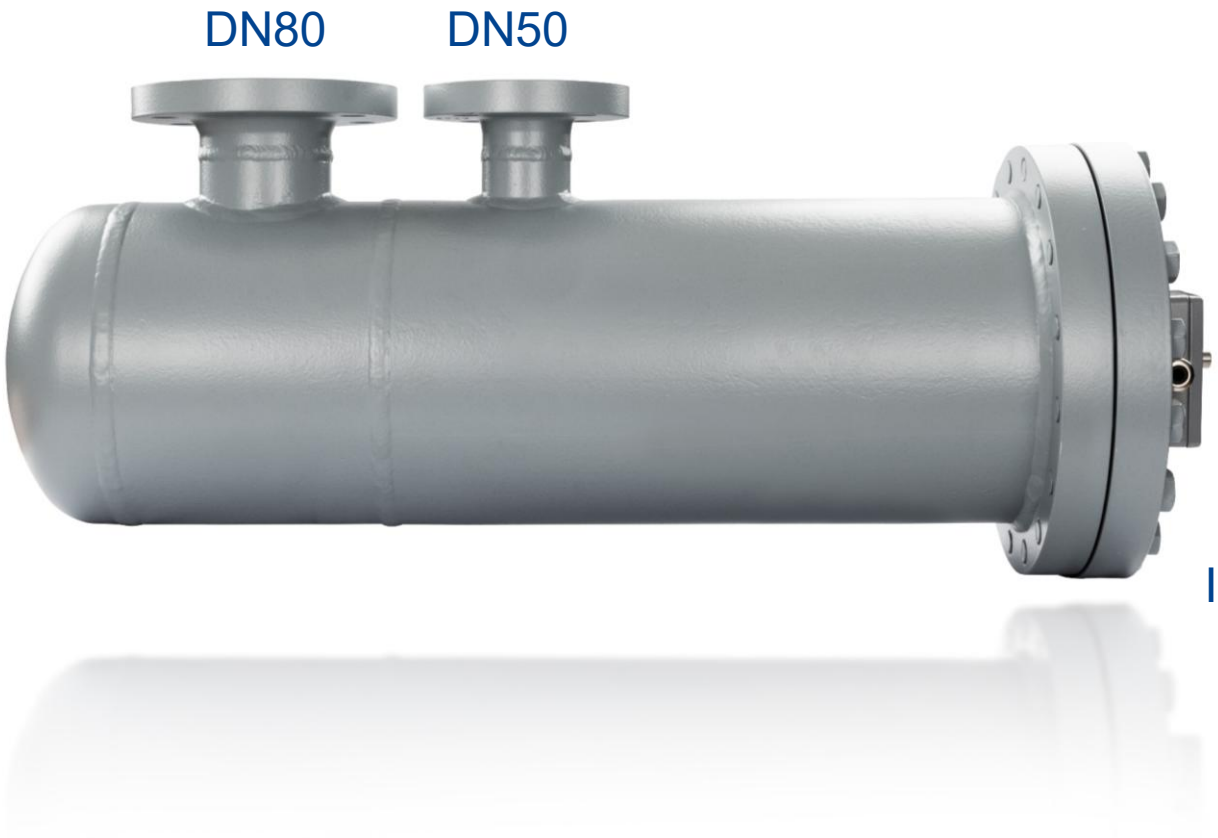


NRP Refrigerant pump

First standard refrigerant pump series with PED approval

NRP W – X/12-8050-63

Flow up to 35 m³/h net, for your system with only 4 kW



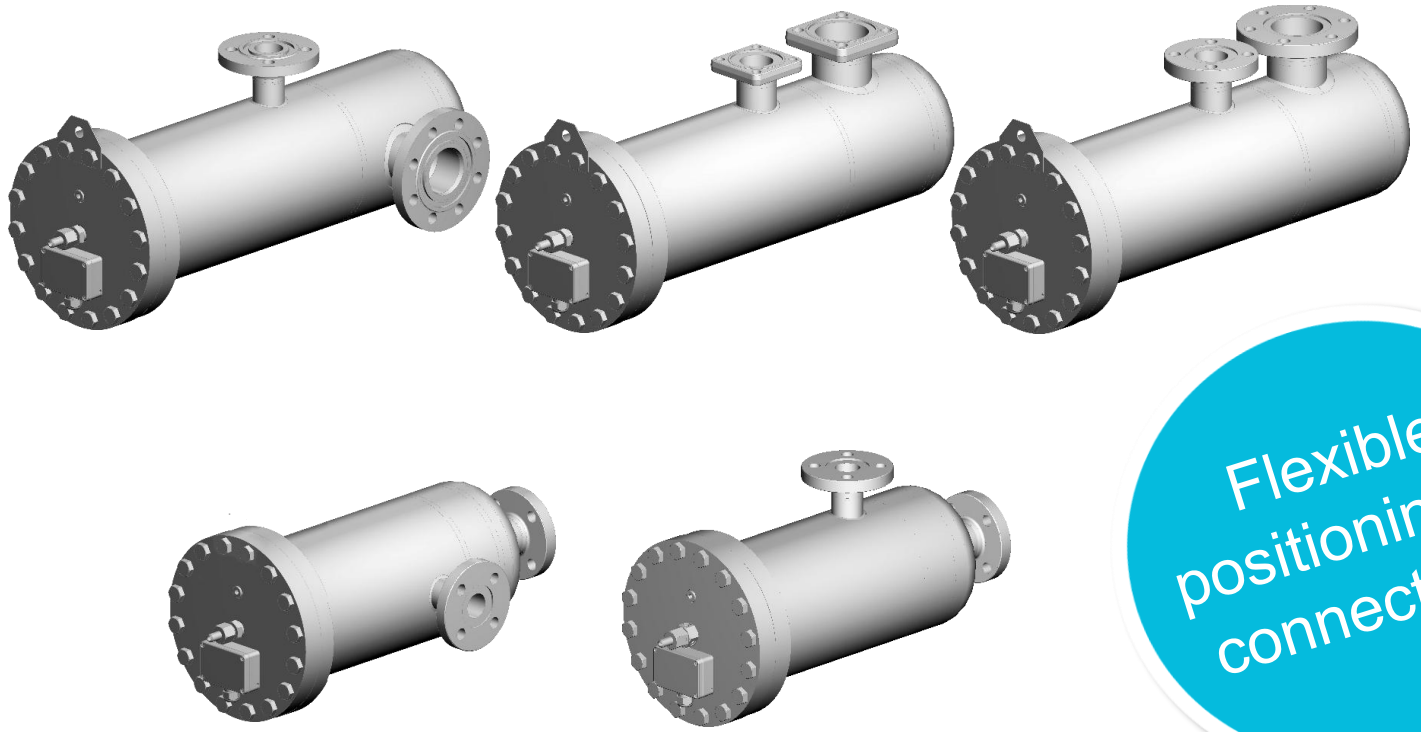
NRP W – X/5-5032-63-S2

Flow up to 15 m³/h net for your system with only 2 kW

NRP Refrigerant pump

Flexible connection positioning, sizes and flange executions

NRP can replace almost any CO_2 refrigerant pump



Flexible positioning of connections

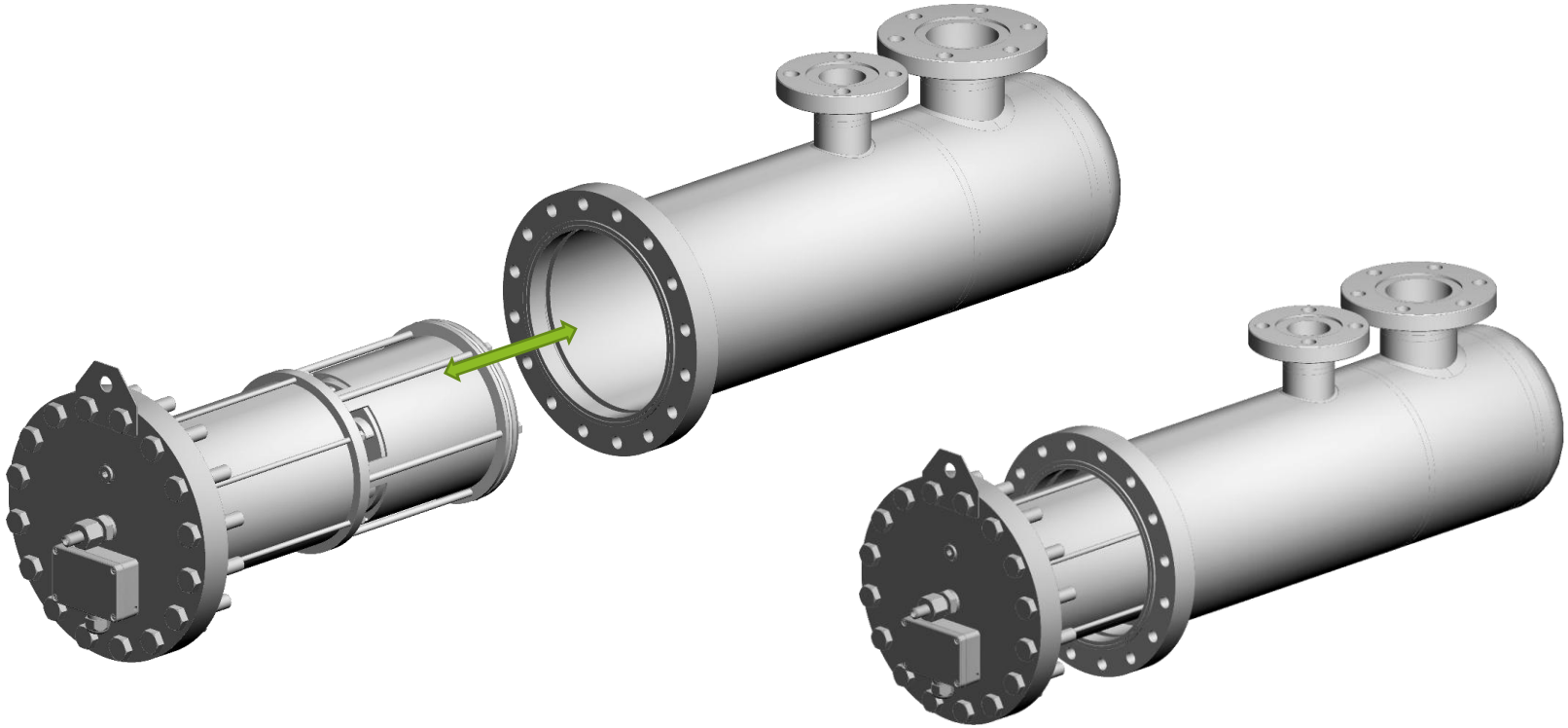
NRP Refrigerant pump

Flexible connection positioning, sizes and flange executions

NRP Maintenance-free

Special high performance bearings and open impellers do not need any maintenance.

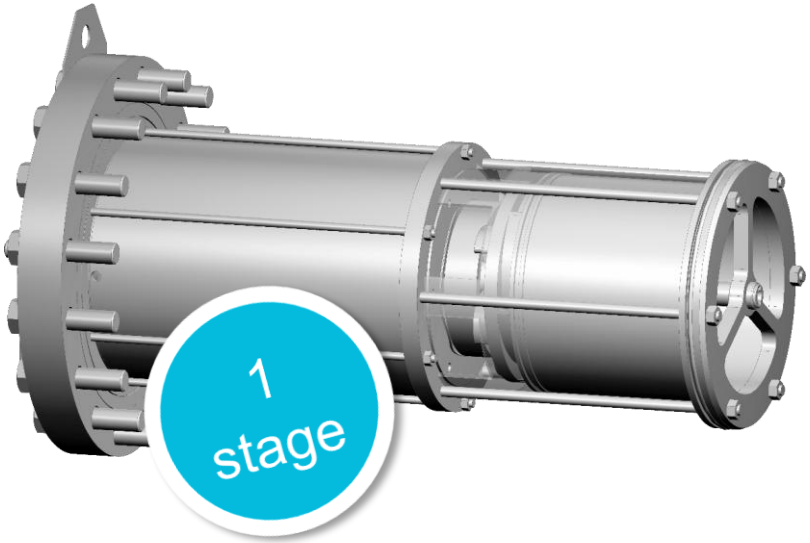
Should nevertheless a service be needed, the entire inner part of the pump can be removed from the housing, so the housing can remain in the system.



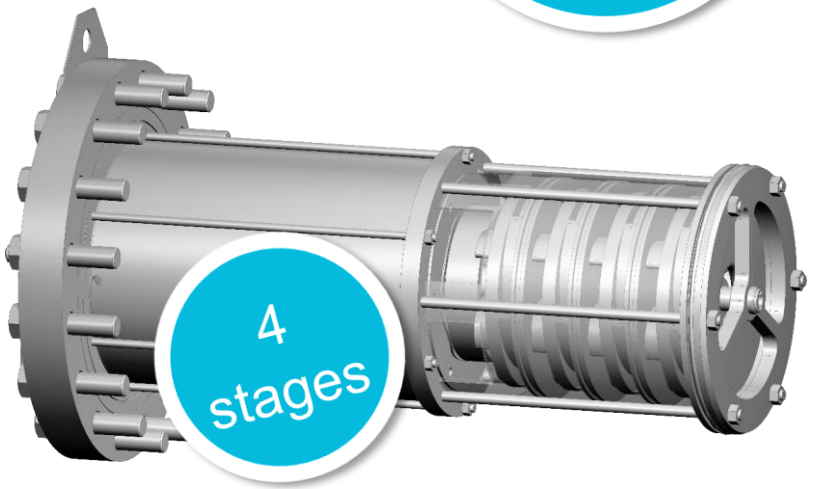
NRP

NRP 1 housing with up to 4 stages

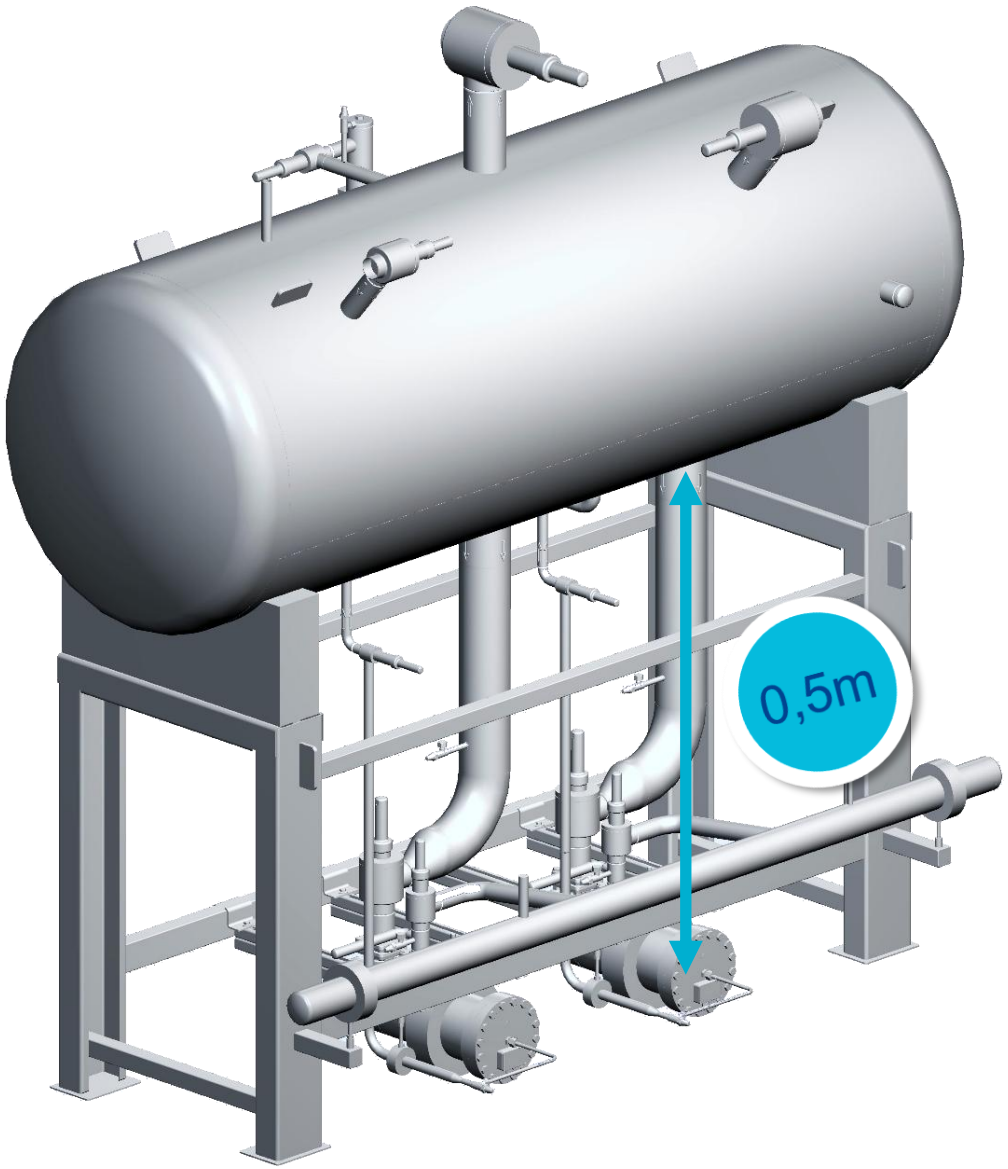
The 2-piece design (housing- and pump-part) allows adoption to your system when needed. The pump part can be retrofitted with up to 4 stages.



Partially retrofittable



NRP Installation



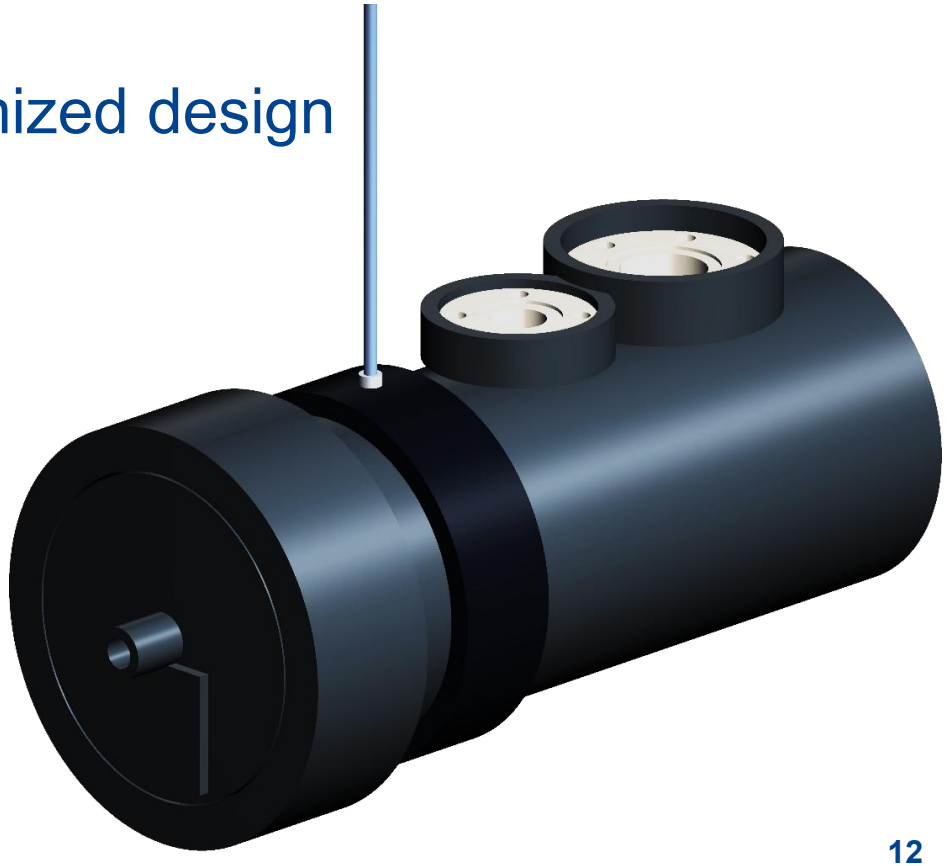
Inlet height between center of the pump and bottom of the separator (suction head):

- Min. 0,5 m for CO_2

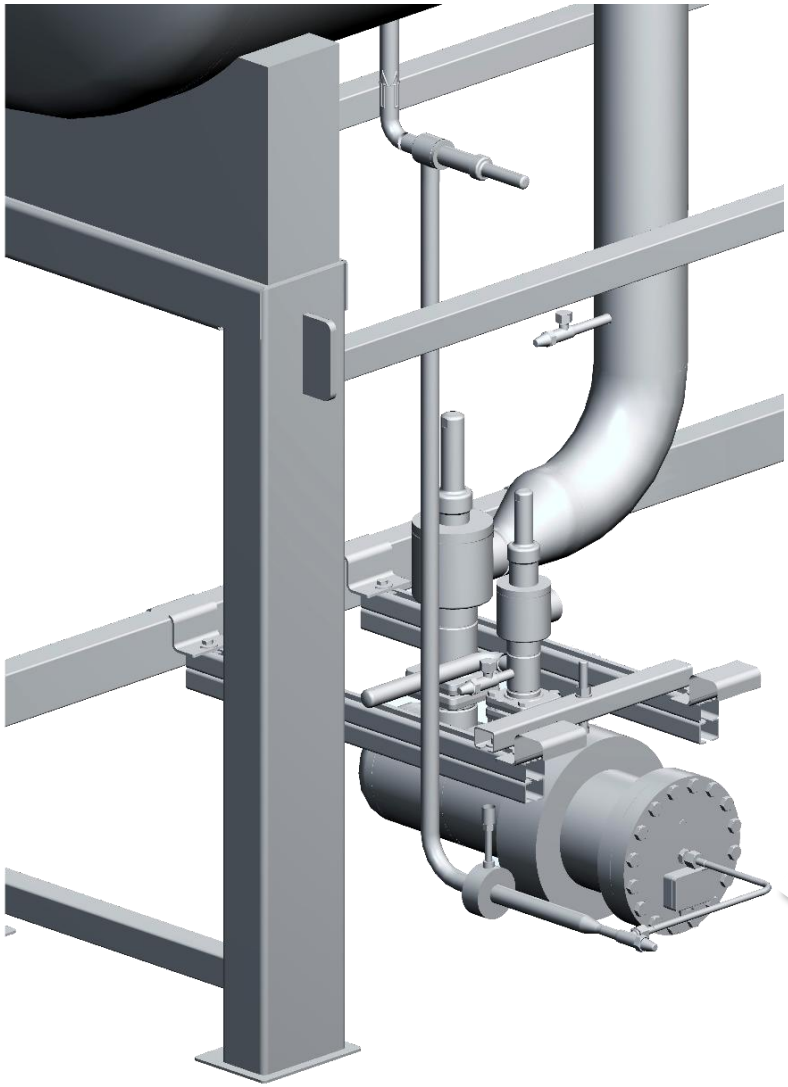
NRP Installation

- Installation with flanges or weld connections (then additional suction filter required)
- Easy to install in a frame of a pumping station by using a standard support bracket
- Easy to insulate, due to optimized design

Easy insulation



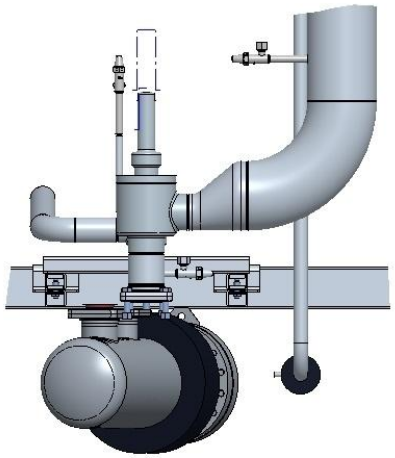
NRP Installation

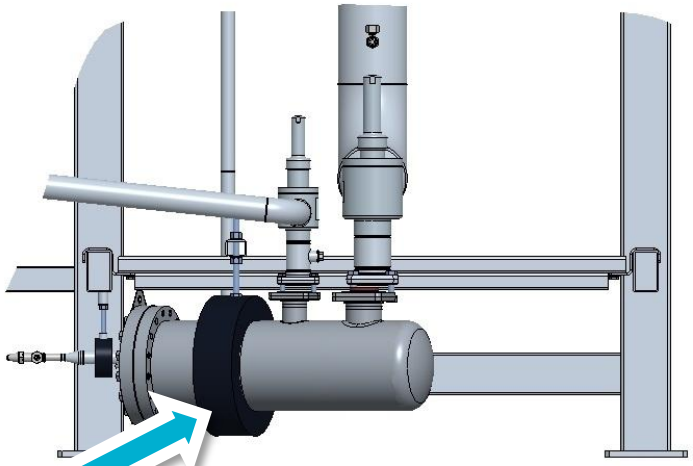


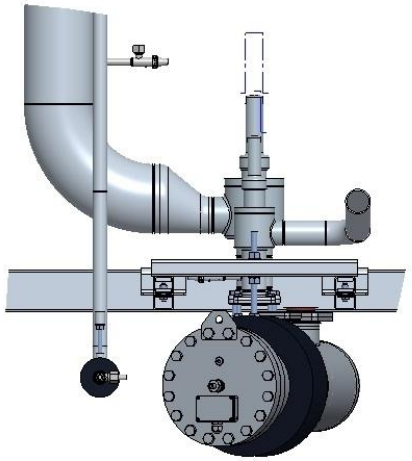
Only a small motor cooling line needed that also vents the pump during standstill.

NO Q_{min}/Q_{max} orifice or additional vent line

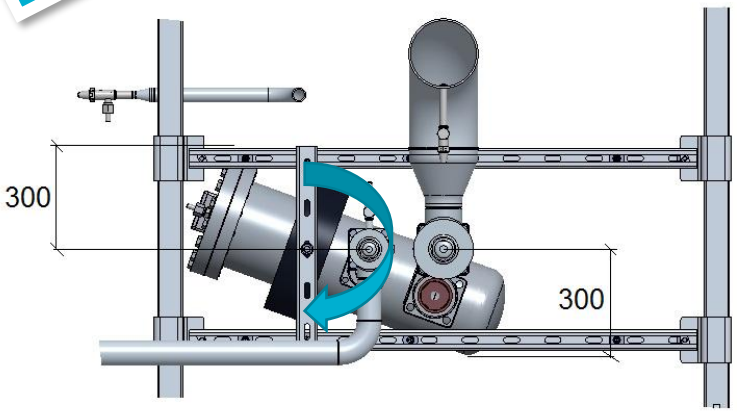
NRP Installation





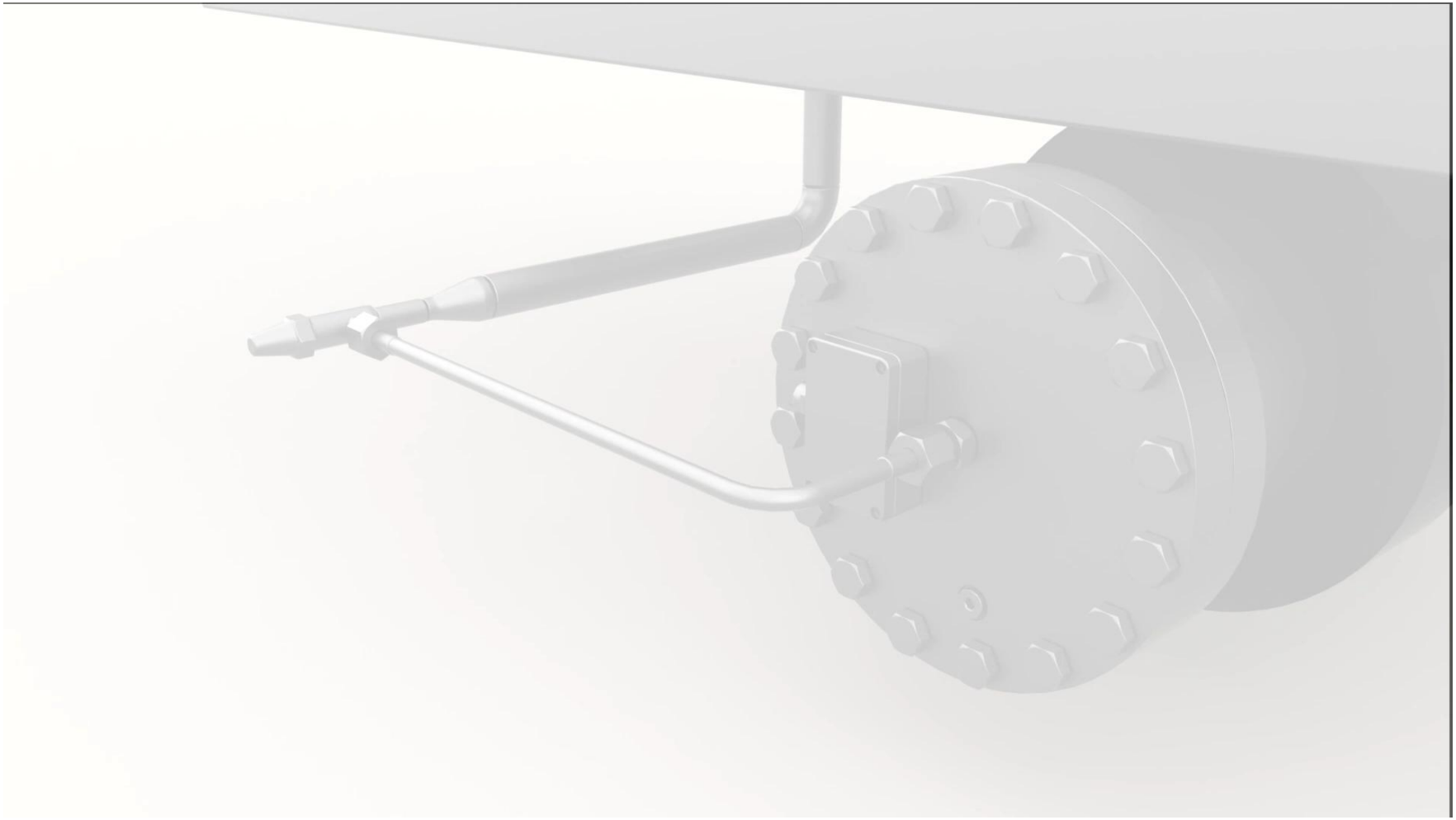


Support bracket located in the balance point

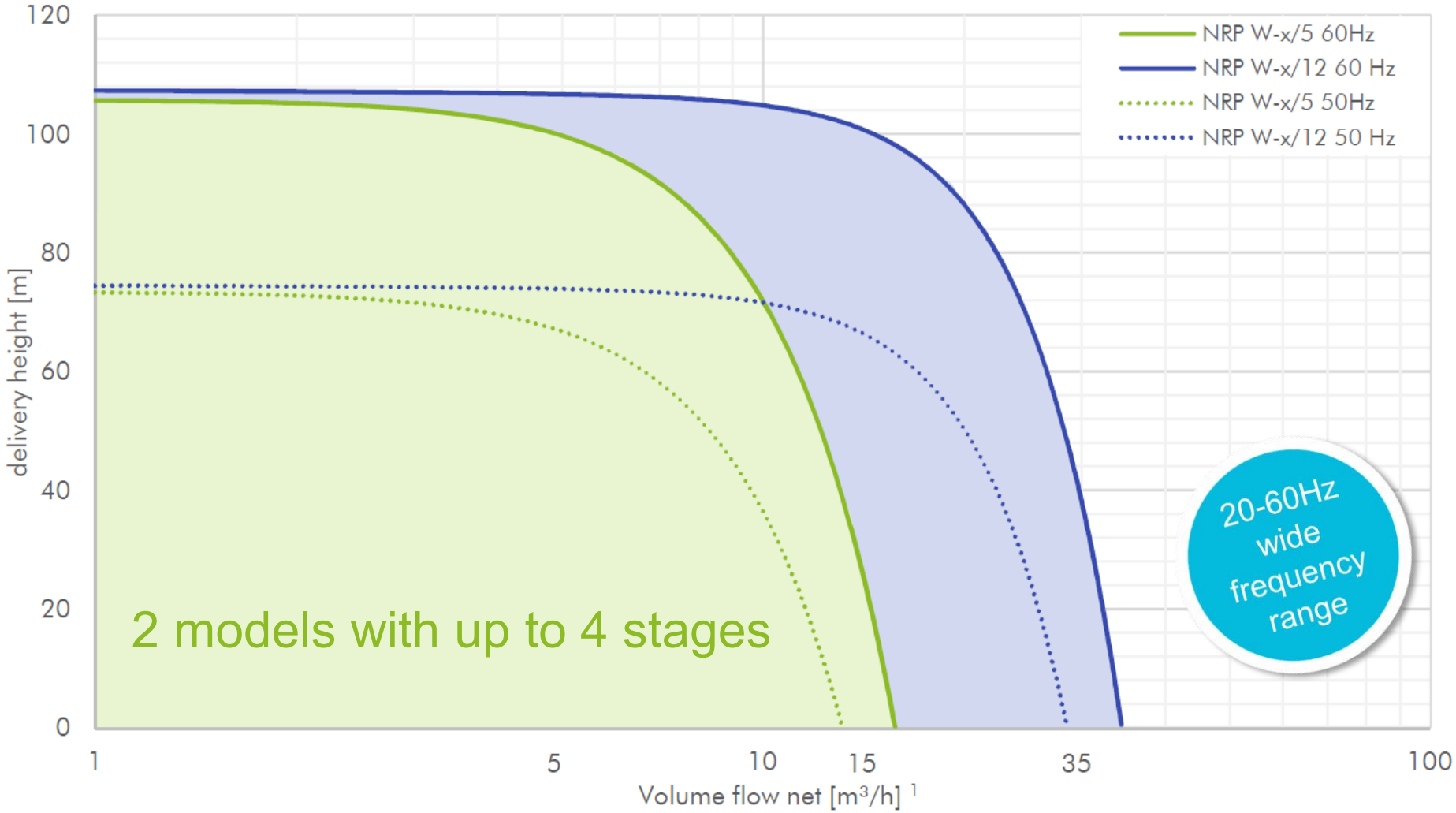


Easy cleaning of the suction filter

NRP Installation



NRP Wide field of performance



[1] the motor cooling volume flow is already extracted

NRP Advantages – maximum safety

- First refrigerant pump to meet PED requirements
- Pressure vessel (housing) rated for 63bar with integrated, separate pump part
- Housing can be welded into the pipework (then separate suction filter needed)

NRP Advantages – reliability

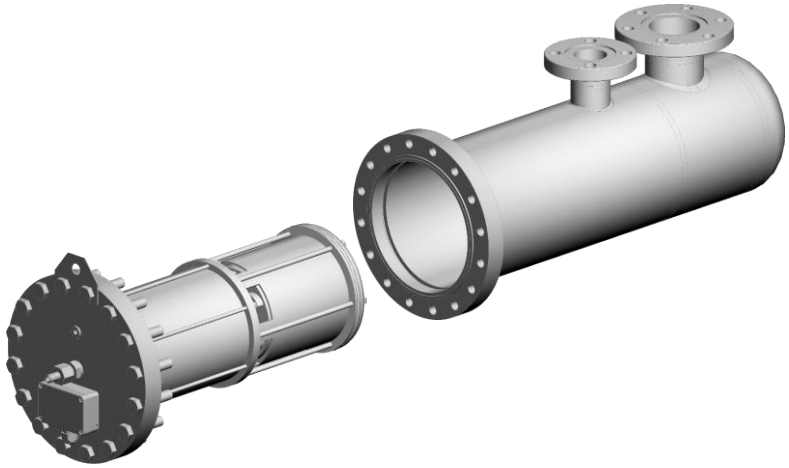
- Special high performance bearings allow temporary dry-run – very important during start/load changes of the compressor
- Proven open impeller design allow operation of liquid/gas mixtures – the pump does not stop operating even at severe operating conditions

NRP Advantages – easy installation

- With support in the balancing point the pump can be easily rotated around the axis for cleaning of the conical filter
- Smooth surfaces for easy insulation
- No Q_{min} orifices needed (no pressure loss, no additional installation)
- Only a small motor cooling line needed that will vent the pump during standstill

NRP Advantages – maintenance

- Since the pump part is independent from the housing, the housing can be welded to the pipework and remain in the system at all times
- The inner pump parts can easily be removed from the housing with standard threaded rods



NRP Leading CO_2 refrigerant pump

- The first CO_2 refrigerant pump to comply with PED
- Separate housing designed as a pressure vessel can remain in the pipe system and the inner pump part can be replaced when needed
- Flexible connections allow replacement of any existing pump

NRP

The new benchmark for CO_2 refrigerant pumps

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