

# CHECK VALVES

The function of a check valve is to allow fluid flow in one direction only.

The Henry Technologies range includes both lift and in-line check valves. The lift check valves are series 205, 116 and NRV. The in-line check valves are series 120.

## Applications

Henry Technologies check valves are suitable for HCFC and HFC refrigerants, along with their associated oils.

A typical application is to install a check valve downstream of an oil separator. This prevents condensed liquid refrigerant returning down the discharge line and into the separator.

The 120 series check valves are not suitable for discharge lines of reciprocating compressors.

## Main features

- Robust design
- Flow direction arrow
- Quiet and efficient operation
- Minimum opening pressure
- Models with copper extensions – NRV E & 120 series

## Technical Specification

Allowable operating pressure = 0 to 34.5 barg (except 116H & 120H series)

Allowable operating pressure = 0 to 45 barg (120H series)

Allowable operating pressure = 0 to 60 barg (116H series)

Allowable operating temperature:-

116 series = -40°C to +149°C

120 series = -29°C to +100°C

205 series = -29°C to +149°C

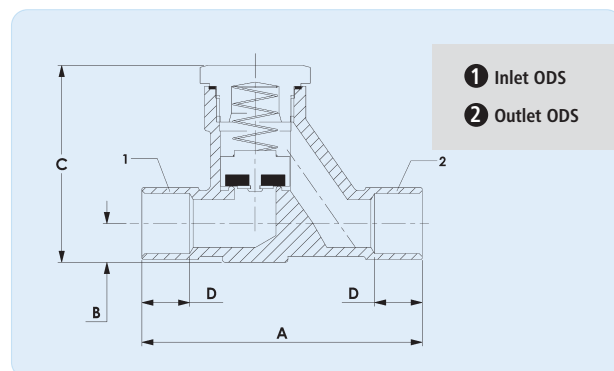
NRV series = -40°C to +120°C

Typically, Henry check valves will start to open at 0.034 barg and be fully open at 0.34 barg pressure differential.



## Materials of Construction

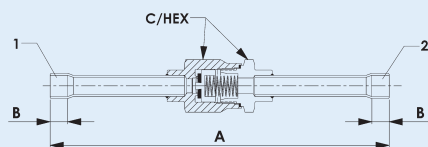
The valve body for the 205 series is made from cast bronze. All other check valve bodies are made from brass. All pistons are made from brass. Springs are made from stainless steel. The seat seal material is PTFE for the 116, 205 and NRV series. The seat seal material is neoprene for the 120 series.



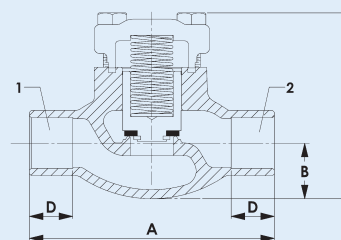
116 SERIES

Part No	Conn Size (inch)	Dimensions (mm)				Weight (kg)	Kv (m <sup>3</sup> /hr)	CE Cat
		A	B	C	D			
116003	3/8 ODS	75	10	52	8	0.24	1.38	SEP
116003H	3/8 ODS	75	10	52	8	0.24	1.38	SEP
116004	1/2 ODS	75	10	52	10	0.23	1.90	SEP
116004H	1/2 ODS	75	10	52	10	0.23	1.90	SEP
116005	5/8 ODS	75	10	52	13	0.22	2.25	SEP
116005H	5/8 ODS	75	10	52	13	0.22	2.25	SEP
116007	7/8 ODS	99	16	75	22	0.92	3.10	SEP

Part No	Conn Size (inch)	Dimensions (mm)			Weight (kg)	CE Cat
		A	B	C/HEX		
120-3/8	3/8 ODS	153	8	21	0.16	SEP
120H-3/8	3/8 ODS	153	8	21	0.16	SEP
120-1/2	1/2 ODS	158	10	32	0.25	SEP
120-5/8	5/8 ODS	163	13	32	0.28	SEP
120-7/8	7/8 ODS	189	19	38	0.53	SEP
120H-7/8	7/8 ODS	189	19	38	0.53	SEP



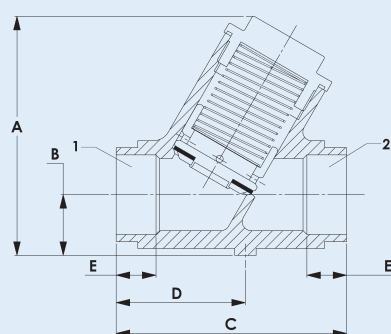
120 SERIES



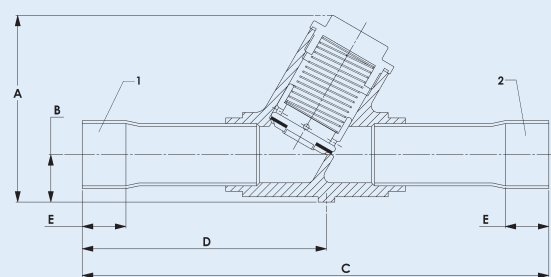
205 SERIES

1 Inlet ODS

2 Outlet ODS



NRV SERIES



NRV E SERIES

Part No	Conn Size (inch)	Dimensions (mm)				Weight (kg)	Kv (m³/hr)	CE Cat
		A	B	C	D			
205-7/8	7/8 ODS	108	25	80	19	1.10	4.58	SEP
205-1 1/8	1 1/8 ODS	124	29	98	24	2.02	6.40	SEP
205-1 3/8-CE	1 3/8 ODS	137	32	108	25	2.64	8.90	Cat I
205-1 5/8-CE	1 5/8 ODS	165	38	129	29	4.43	11.50	Cat I
205-2 1/8-CE	2 1/8 ODS	216	51	157	38	7.75	19.03	Cat I
205-2 5/8-CE	2 5/8 ODS	279	57	183	43	12.50	31.57	Cat I

Part No	Conn Size (inch)	Dimensions (mm)					Weight (kg)	Kv (m³/hr)	CE Cat
		A	B	C	D	E			
NRV14	7/8 ODS	78	20	70	38	11	0.60	5	SEP
NRV18	1 1/8 ODS	78	20	70	38	11	0.53	8.5	SEP
NRV22-CE	1 3/8 ODS	106	27	102	57	17	1.30	13.5	Cat I
NRV26-CE	1 5/8 ODS	106	27	102	57	17	1.20	16	Cat I

Part No	Conn Size (inch)	Dimensions (mm)					Weight (kg)	Kv (m³/hr)	CE Cat
		A	B	C	D	E			
NRV14E	7/8 ODS	78	20	191	98	19	0.77	5.0	SEP
NRV18E	1 1/8 ODS	78	20	225	116	23	0.79	8.5	SEP
NRV22E-CE	1 3/8 ODS	106	27	264	138	25	1.70	13.5	Cat I
NRV26E-CE	1 5/8 ODS	106	27	270	138	28	1.60	16.0	Cat I

### Installation – Main issues

- Valves must be installed in accordance with the flow direction arrow.
- The valve bodies and valve internals must be protected against damage during brazing. Full instructions are given in the Product Instruction Sheet, included with each valve.
- Series 116 valves can be installed in any position except bonnet down. This is the same for 205 series up to 1 3/8" size. For larger sizes, the bonnet must be positioned upwards. The bonnet of the NRV series should be positioned upwards. For all models, the recommended bonnet position is upwards.
- Discharge check valves should be positioned as far from the compressor as possible.