

Nicab Due®

Secondary refrigerant valve 2 or 3 way
 Intended for regulation of the temperature
 in display cabins and cold rooms.
 Internal relay, 2 potential free contacts,
 2 Leds (cooling/defrosting), 3 O-rings
 In EPDM rubber to minimize the risk of
 Leakage. DN 15 – DN 40.



Properties	Benefits	User Advantages
2 Led's for defrost and cooling.	Easy to see if the valve is in defrost or cooling mode.	Easy to check if the valve is installed as planned.
Auxilliary change over contacts.	An external signal that indicates the valve position.	The risk of wrongful installation is minimized. If an error occurs it's easy to control if the valve is in open or close position. Easy to send information regarding the valves position to a controlpanel or computer, which makes troubleshooting easier. Safer and more efficient defrosting.
Internal heating.	Prevents condensation	Minimizes th risk of short circuit on the circuit board.
3 O-rings in EPDM rubber	Handles low temperatures. Compatible with different types of secondary refrigerant.	Minimizes the risk of leakage. Suitable for all systems.
Internal relay.	The actuator can be controlled with an on/off switch.	No need for an extra relay, which reduces the cost.
90° turning angle.	The same actuator for both 2-way and 3-way valves.	Only one spare part
Compatible back to 1993.	Only one type of actuator needed as spare part.	Reduced cost.

NICAB Due: Motorised ball valve for sec, refrigerant systems
HT -15 °C / LT -35 °C
Dimensions DN 15 – DN 40

The Nicab Due ball valve for secondary refrigerant systems is a development from the Nicab STANDARD, specially designed to handle low temperatures and different types of secondary refrigerants like Glycol, Freezium, Hy-Cool, Temper and Tyfoxit. The valve is ON/OFF type, the ball in the 3-way valve has a special drilling which gives a secure and stable flow through the valve even when the valve is shifting port, for example in defrosting. The valves are manufactured as both 2 and 3 way depending on system design.

The same type of actuator is used for all valves regardless if it's 2 or 3 way. On the top of the actuator there are two LEDs that indicates cooling and defrosting.

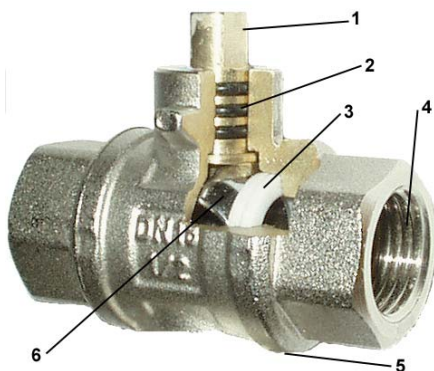
To control the valve you can use a thermostatic control with an open/close contact. The voltage is 230 V or 24 V depending on design. Two potential free contacts is standard on plint to receive a signal back from the micro switch.

Type	Dimension DN	kvs value m³/h		Weight in kg	
		2-Way	3-Way	2-Way	3-Way
Due DN 15	15	16,2	3,9	1 kg	1,1kg
Due DN 20	20	26,5	7,9	1,2 kg	1,2 kg
Due DN 25	25	47	13	1,4 kg	1,6 kg
Due DN 32	32	70	20,7	1,9 kg	2,4 kg
Due DN 40	40	145	458,5	2,2 kg	2,6 kg

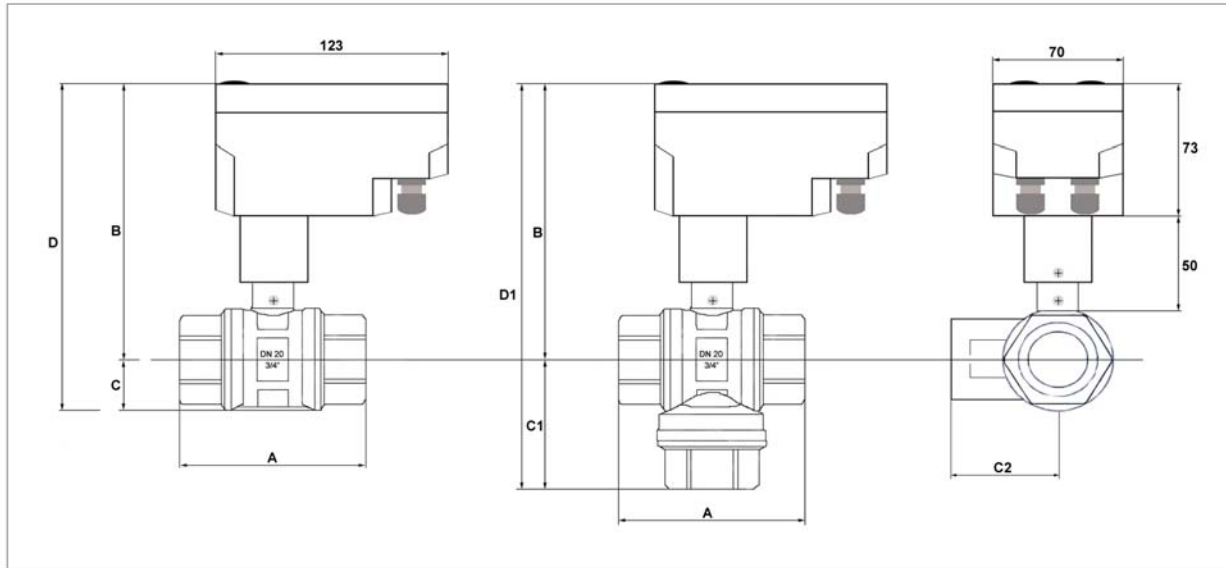
Technical Data

Dimension:	DN215 – DN 40
Voltage:	230V (24V)
Torque:	14 Nm
Internal heating:	5 W
Room temperature:	-20 °C - +70°C
Valve body:	Low zinc plated brass
Microswitch:	10 (2) A
Led's:	Blue led = open/cooling Red led = close/defrost
Frequency:	50/60 Hz
Running time:	90° about 100 Sec.
Protection:	IP 55
Sec. Refrigerant temp:	HT -15°C / +95 °C (LT -35°C)
Operational pressure:	10 bar
Differential pressure:	6 bar
Relay contacts:	10 (2) A
Internal protection:	Heater 33 K, 5W. Protective spray film on circuit.

Construction



1. Axle in chrome plated brass
2. 3 O-rings in EPDM rubber
3. Disk PTFE
4. Female thread BSP, standard (Male optional)
5. Body in low zinc plated brass
6. Ball in chrome plated brass



Measures 2-way valve

Dn	A	B	C	D	Kg	Kv	Art. No.	Rsk No.
15	73	140	17	157	1,0	16,2	422HT015	5363189
20	84	145	21,5	166	1,2	26,5	422HT020	5363190
25	95	150	26	175	1,4	47	422HT025	5363191
32	107	155	32,5	188	1,9	70	422HT032	5363192
40	120	172	39,5	205	2,2	145	422HT040	5363193

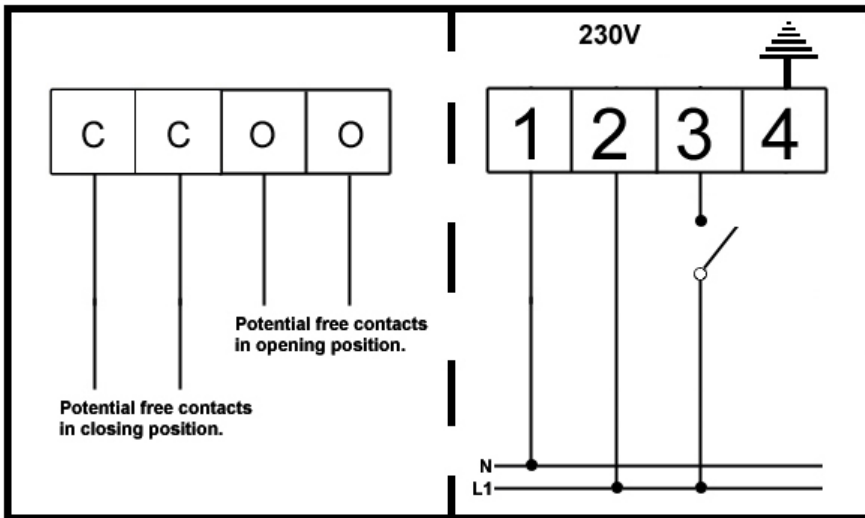
Measures 3-way valve

Dn	A	B	C1	C2	D1	Kg	Kv	Art. No.	Rsk No.
15	73	140	73		187	1,1	3,9	423HT015	5363194
20	84	145	87		200	1,2	7,9	423HT020	5363195
25	95	150	104		217	1,6	13	423HT025	5363196
32	107	155	115		240	2,4	20,7	423HT032	5363197
40	120	172	39,2	60	205	2,6	40,5	423HT040	5363198

Pressure Loss

For calculating pressure loss over the valve use the formula $Kv = Q/\sqrt{\Delta P}$ normally the flow and Kv-value are known. Kv = amount of flow in m³/h create a pressure drop of 1,0 bar when passing the valve. Q = flow in m³/h ΔP = Pressure drop in bar. Example: 3-way DN 20 (423HT020) Kv = 7,9 - Q=2,0 m³/h ΔP = (2,0/7,9)² = 0,0064 bar = 6,4 Kpa. To calculate the valve size (Kv) for a given max pressure drop e.g. max ΔP 10 Kpa. Ex. Kv = ? Q = 4,0 m³/h - ΔP = 0,1 bar = 10 Kpa Δ Kv = 4,0/√0,1 Δ Kv = 12,6 find a valve with a Kv-value close to 12,6, take a 3-way DN 25 (423HT025) with Kv = 13. This example above is for water +20°C for secondary refrigerant and low temperature calculate with a pressure loss 40% - 70% higher, depending on type of secondary refrigerants and temperature. For more detail figure contact Nicab or use the computer program on our home page.

Electrical scheme



Electric Connection

Terminal board 1 = Neutral

Terminal board 2 = L1

Terminal board 3 = Thermostat

Terminal board 4 = Ground

* Heater is connected internally (condense protection)

Potential free contacts

CC = Contact when actuator is closed

OO = Contact when actuator is open

ACCESSORIES

Insulation boxes



Connections

