

2-way TPC Normally Open valve

Limited operating pressure specification

The 2-way TPC valve is divided into two categories as follows:

Normally Closed (NC) : Normally Open (NO)

When using 2-way TPC Normally Open (NO) valve with nominal size DN40 and DN50, it is necessary to pay full attention to allowable maximum operating pressure at Port 2 as it is limited as below chart (See Table 1).

Table 1: Maximum allowable operating pressure for 2-way TPC valve (Standard type)

Unit : MPa

Port # Valve size	Normally Closed (NC) Air to Open		Normally Open (NO) Air to Close	
	Port 1	Port 2	Port 1	Port 2 (※1)
DN08 - 15	3.2	3.2	3.2	3.2
DN20	3.2	3.2	3.2	3.2
DN25	3.2	3.2	3.2	3.2
DN32	3.2	3.2	—	—
DN40	3.2	3.2	3.2	2.0
DN50	3.2	3.2	3.2	1.2
DN65, 80	3.2	3.2	—	—

※1 : Allowable max pressure to have the valve fully open from status Port 1~Port 2 Closed (pilot air is ON) to status Port 1~Port 2 Open (Pilot air is OFF).

The reason for these lower operating pressure of 2-way Normally Open valve in size DN40 & DN50 is because these valves were initially designed with the assumption that Port 2 shall be connected to exhaust line; however, we recently found out that there are other usage in varieties of application.

As a countermeasure, we have special option (※2) “Z50”, that has reinforced Spring in comparison to standard valve. Use our special version of “Z50” when Normally Open valve in size DN 40 & DN 50 to be used under the condition where the max allowable operating pressure at Port 2 exceeds the figures shown in above chart in its application.

When using “Z50” valve, please also pay extra attention to the range of Air Pilot Pressure Range since its pilot pressure ranges are different from Standard type. (For details, see attached Table 2.)

We have also another special upgraded option “Z54”, as substitution of “Z50”, which can also correspond to high temperature usage up to 240 C degree.

※2 Special option: When valve has a special feature or specification, it indicates “Z” at the end of valve model code.

Table 2: Maximum allowable operating pressure and temperature for Normally Open (NO) 2-way TPC valve (Standard type/ Special option "Z50" & "Z54")

Unit : MPa

Model	Standard		Special option (Z50)		Special option (Z54)	
Pilot pressure range	0.25 to 0.35		0.3 to 0.35		0.3 to 0.35	
Max Temperature	205°C		205°C		240°C	
Port 3	Plug or Lower Cover		Lower Cover		Lower Cover	
Port # Valve size	Port 1	Port 2	Port 1	Port 2 (※ 3)	Port 1	Port 2 (※ 3)
DN 40	3.2	2.0	2.8	2.8	2.8	2.8
DN 50	3.2	1.2	2.8	2.5	2.8	2.5

※3 : Allowable max pressure to have the valve fully open from status Port 1~Port 2 Closed (pilot air is ON) to status Port 1~Port 2 Open (Pilot air is OFF).

=====

Reference Drawing attached

- IG-TPC2221-R2 (TPC NO Standard/ DN08~40/ Thread)
- IG-TPC2222-R3 (TPC NO Standard/ DN15~40/ Flanged)
- IG-TPC2222-40Z50-R2 (TPC NO Special/"Z50"/DN40/ Flanged)
- IG-TPC2222-40Z54-R2 (TPC NO Special/"Z54"/DN40/ Flanged)
- IG-TPC1222-50-R3 (TPC NO Standard/ DN50/ Flanged)
- IG-TPC1222-50Z50-R2 (TPC NO Special/"Z50"/DN50/ Flanged)
- IG-TPC1222-50Z54-R2 (TPC NO Special/"Z54"/DN50/ Flanged)

For the model and order code of TPC valve, please refer to our website:

<https://www.rocky-ichimaru.co.jp/en/>