

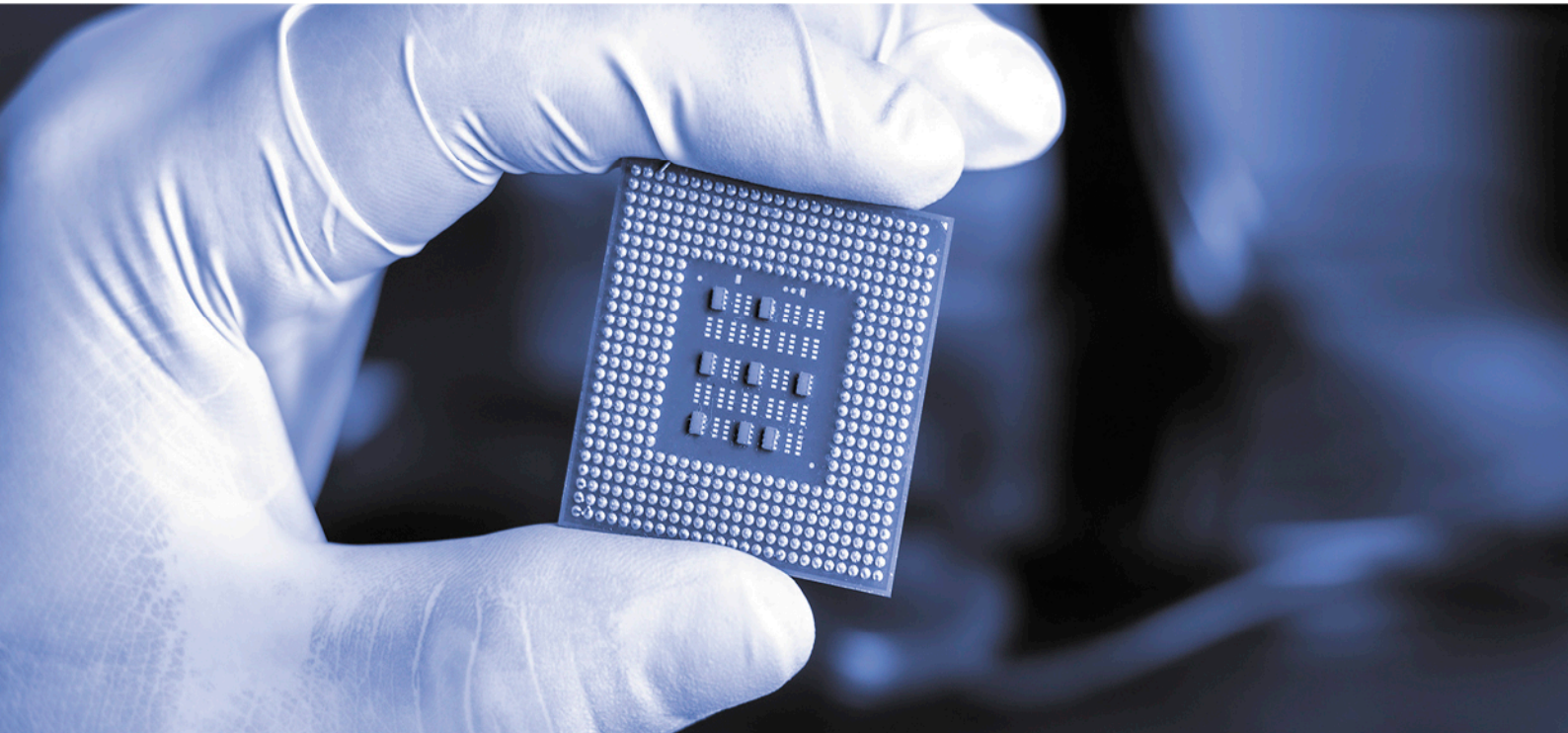


# Vacuum Control Valves

**NOVASEN**



# Make it Best or Not !



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## 제품선택 가이드

<b>A</b>	<b>B</b>	<b>N</b>	<b>080</b>	<b>F</b>	<b>S</b>	<b>LO</b>	<b>B</b>	<b>1</b>	<b>Quantity of sensors</b>	1 : 1 Sensor 2 : 2 Sensor
									<b>Power Option*</b>	B : Basic P : with PFO S : with SPS D : with SPS and PFO
									<b>Communication Interface</b>	R2 : RS-232 LO : Logic PB : Profibus CC : CC-Link R4 : RS-485 DN : DeviceNet® EN : Ethernet EC : EtherCAT
									<b>Body Material</b>	A : Aluminum S : SUS304 L : SUS316L
									<b>Method of contract</b>	K : ISO-KF F : ISO-F C : CF-F
									<b>Flange Size</b>	025 : DN25 050 : DN50 080 : DN80 160 : DN160 250 : DN250 040 : DN40 063 : DN63 100 : DN100 200 : DN200 320 : DN320
									<b>Sealing Type</b>	N : Non-Sealing S : Sealing F : F-cup Sealing
									<b>Valve Type</b>	B : Butterfly P : Pendulum
									<b>Valve Model</b>	A : APC

## 제품 리스트

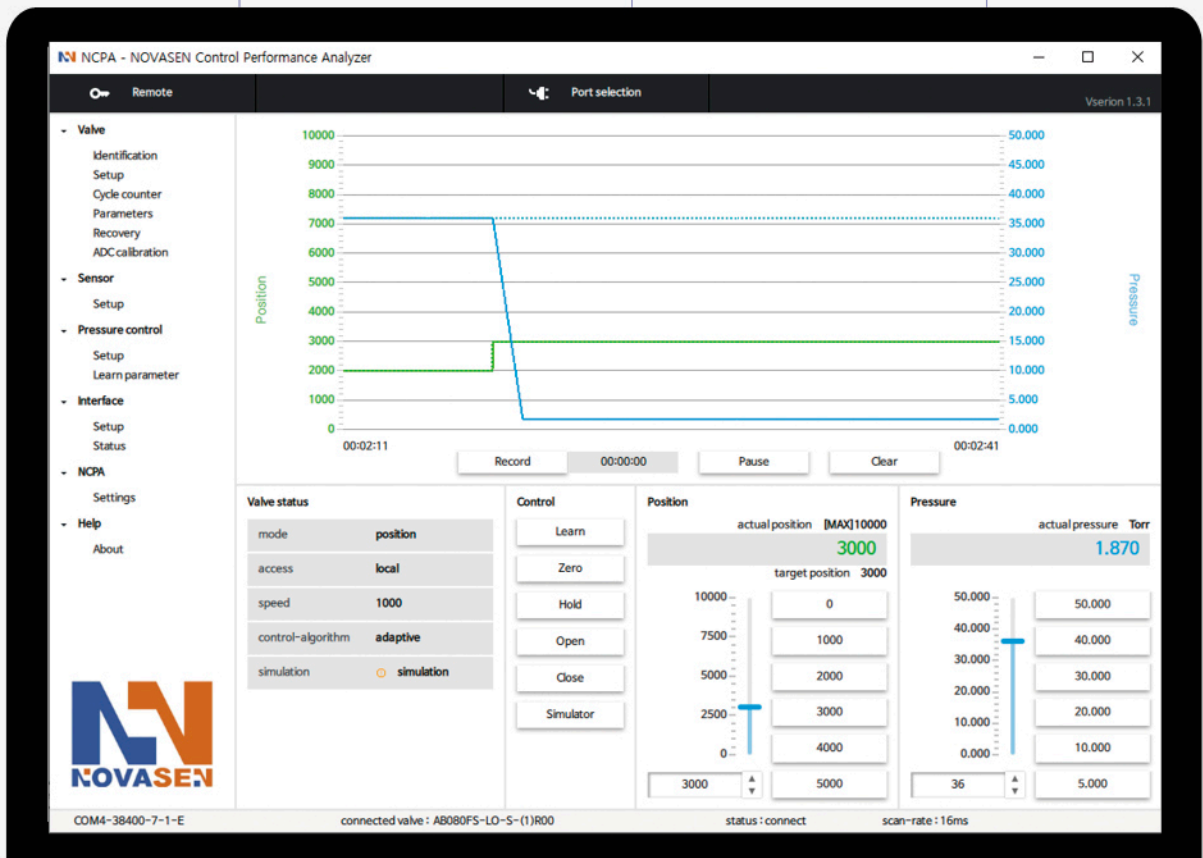


# 관리 S/W

밸브의 상태 모니터링

밸브의 위치 및 압력 제어 변화  
그래프 표시 / 저장

밸브의 위치 및 압력 제어



학습모드 수행

사용자 인터페이스  
관련 설정

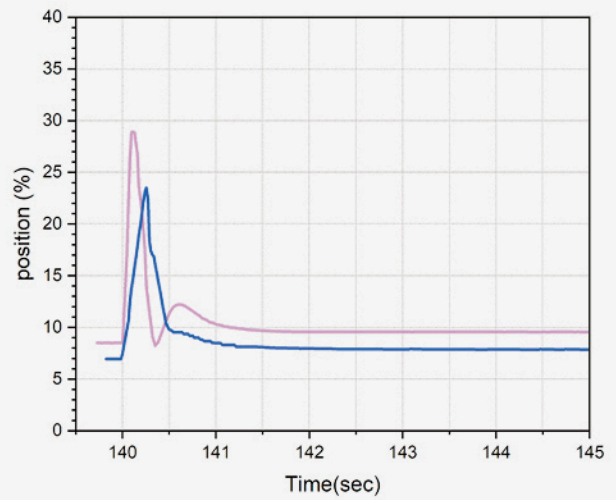
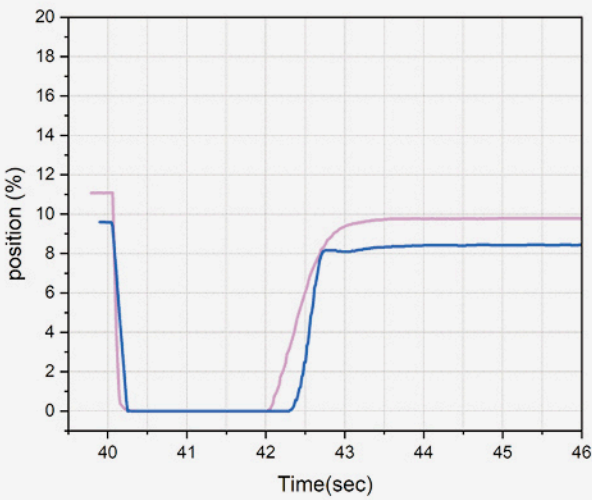
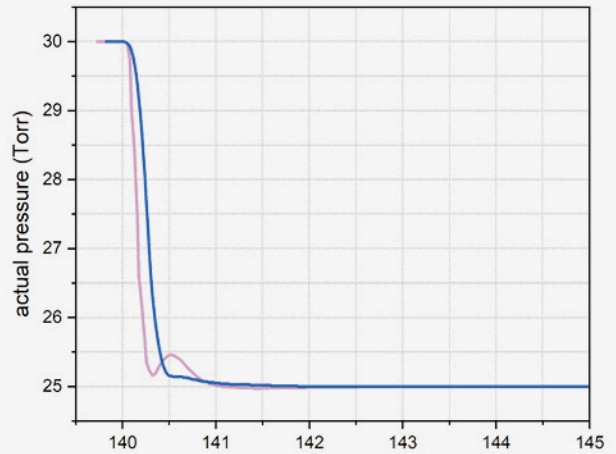
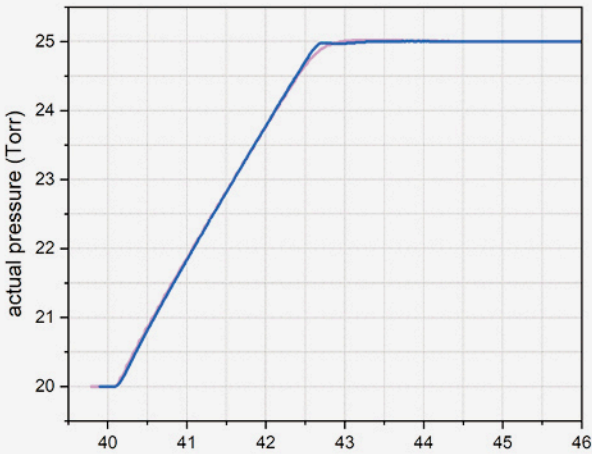
밸브 및 센서의 속성 설정

학습 데이터 저장 / 불러오기

# APC 버터플라이 밸브

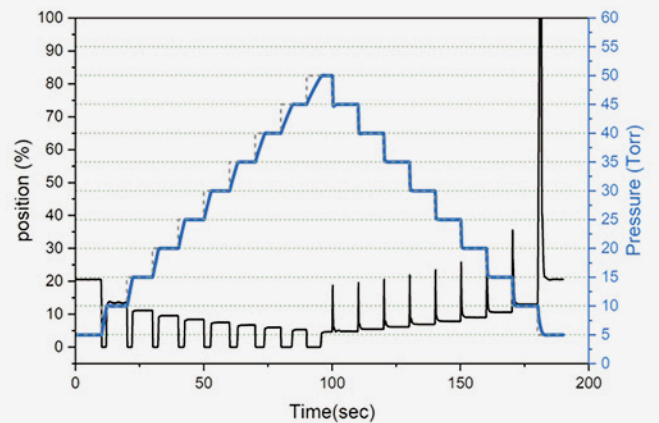
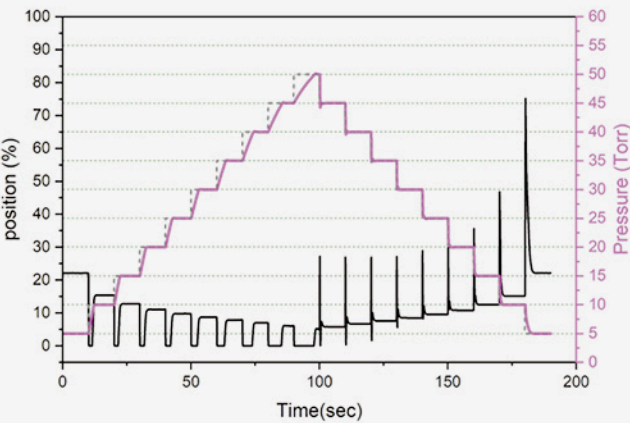
## | 제어 성능

■ 자사 제품  
■ 타사 제품

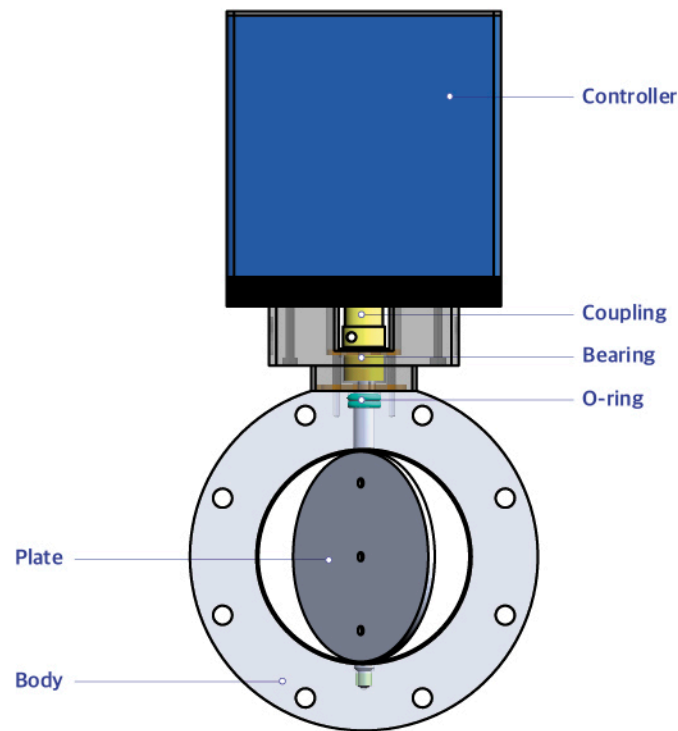


압력 상승

압력 하강



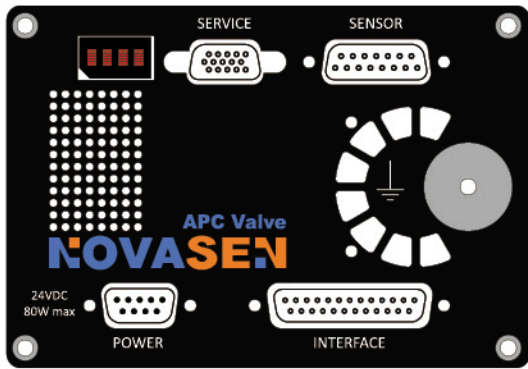
제어 응답



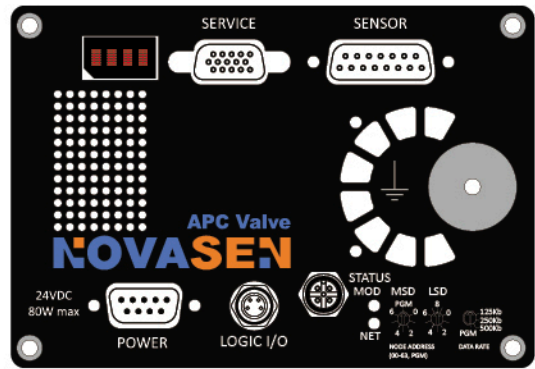
## 제품 사양

Pressure range at 20°C	1 × 10E-8 mbar to 1.2 bar (abs)
Leak rate to outside at 20°C	1 × 10E-9 mbar l/s
Cycles until first service	2,000,000 (unheated and under clean conditions)
Admissible operating temperature	+10°C to +150°C
Mounting position	Any Control unit for ISO-KF version needs support when mounted on horizontal piping and control unit does not hang.
Wetted materials - Body, plate - Shaft - Plate screws	Body, Plate - Stainless steel 304 , Aluminum 6061 Shaft - Stainless steel 316L Plate screws - Stainless steel 304
- Shaft seal	Viton® (standard). Other materials available on request. Seal materials are v declared on dimensional drawing of specific valve ordering number.
- Slide bearing for shaft	iglidur® X
Power input <sup>1)</sup>	+24 VDC (±10%) @ 0.5V pk-pk max.[connector: POWER]
Power Consumption	80 W max. (operation of valve with max. load) without PFO4)
Sensor power supply <sup>2)</sup>	+24 VDC / 1500 mA max. [connector: POWER] ±15 VDC (±5%) / 667 mA max. [connector:SENSOR]
Sensor input	0-10 VDC / Ri>100 kΩ [connector: SENSOR]
- Signal input - ADC resolution - Sampling time	0.16 mV 1 ms
Digital inputs <sup>3)</sup>	±24 VDC max.
Digital outputs <sup>3)</sup>	70 VDC or 70 V peak max. 0.5 ADC or 0.5 A peak max. 10 W max.
- Input voltage - Input current - Breaking capacity	
Ambient temperature	0 °C to +50 °C max. (<35 °C recommended)
Pressure control accuracy	5 mV or 0.1% of setpoint, whichever is greater
Position resolution / position control capability	20000
Actuating time	0.3 s typ.
closing	0.3 s typ.
opening	
Utilizable valve torque	2.5 Nm

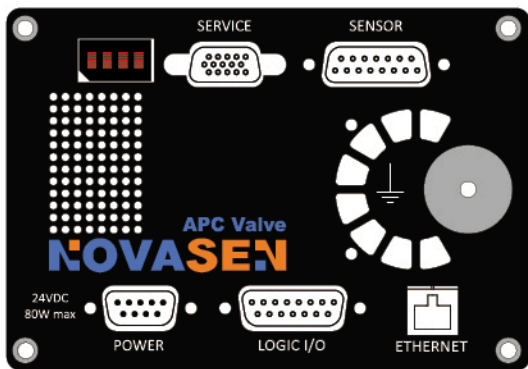
1) Internal overcurrent protection by a PTC device. 2) Refer to chapter «Sensor supply concepts» for details. 3) Refer to chapter «Schematics» for details.



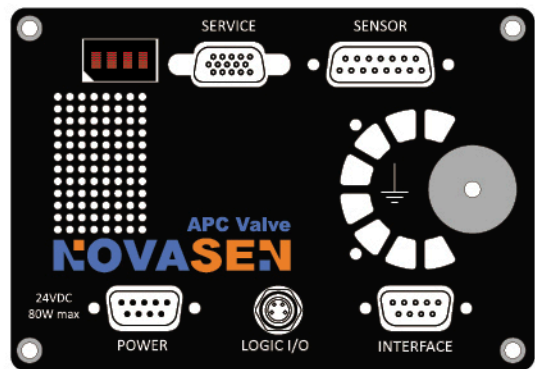
RS232, Logic, RS422, RS485



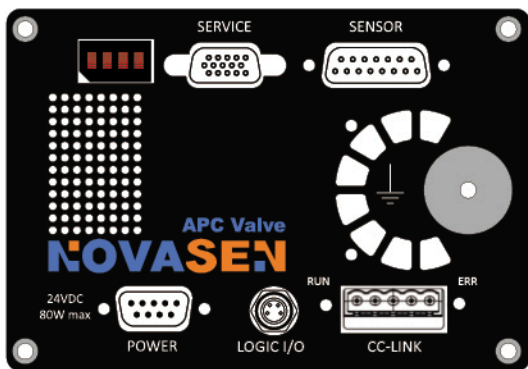
DeviceNet



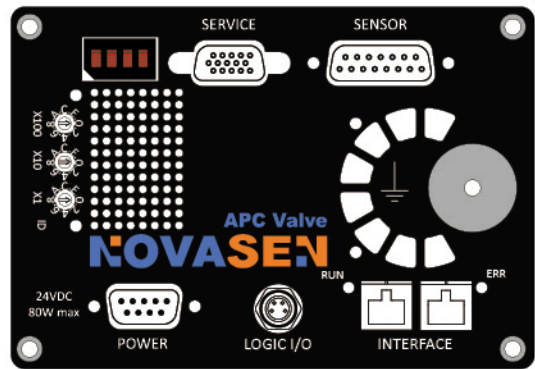
Ethernet



Profibus



CC-Link



EtherCAT

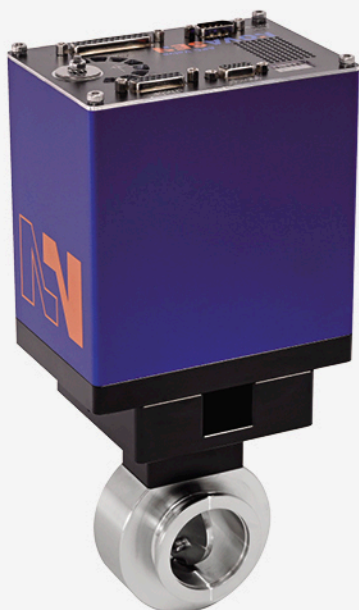
## ELECTRICAL CONNECTIONS

	CONNECTION	TYPE
POWER	Power input	DB-9 male
SENSOR	Sensor input	DB-15 female
	Sensor power supply	
INTERFACE	RS232, Logic, RS422, RS485	DB-25 female
	DeviceNet®	Micro-style male
	Ethernet	RJ-45
BUS Modules	Profibus	DB-9 female
	CC-Link	5-pole terminal screw
	EtherCAT	RJ-45 x 2

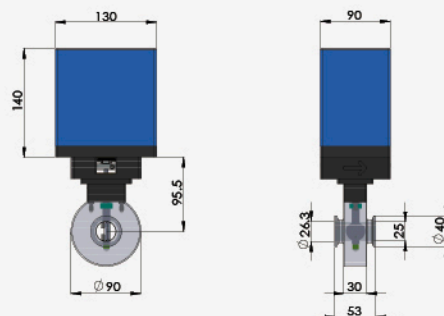
BUTTERFLY

# Non-Sealing

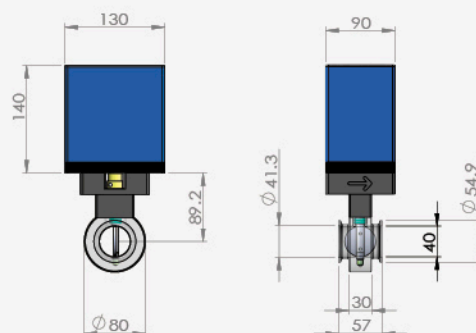
25N / 40N / 50N



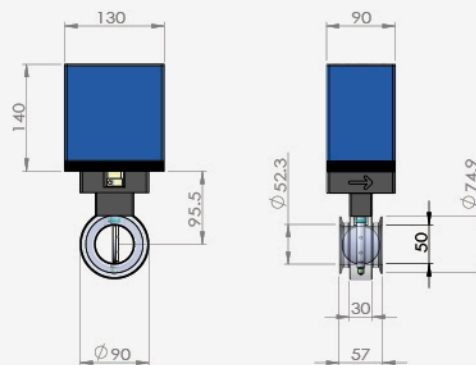
25N



40N



50N



## Product Specification

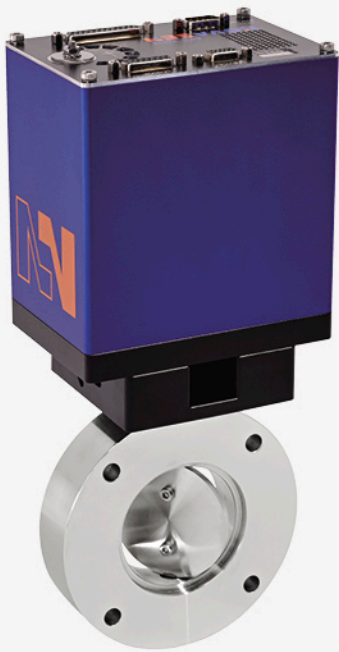
DN (nominal I.D.)		Conductance in open position (molecular flow)	Minimum controllable conductance (molecular flow)	Max. differential pressure	Typical closing / opening time	Weight(approx.)			
						Aluminum		Stainless steel	
mm	inch	ls-1	ls-1	mbar	s	kg	lbs	kg	lbs
25	1	22	0.25	1,000	0.3	2.9	6.5	4.0	8.8
40	1½	80	0.25	1,000	0.3	2.8	6.3	3.9	8.6
50	2	150	0.3	1,000	0.3	2.9	6.4	4.1	9.0



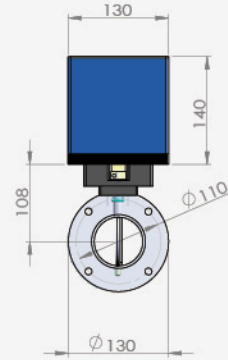
BUTTERFLY

# Non-Sealing

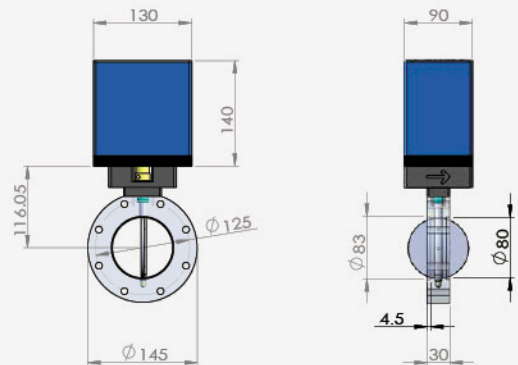
63N / 80N



## 63N



## 80N



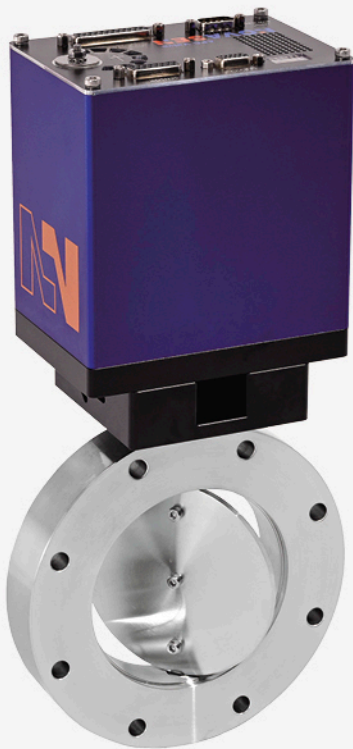
## Product Specification

DN (nominal I.D.)		Conductance in open position (molecular flow)	Minimum controllable conductance (molecular flow)	Max. differential pressure	Typical closing / opening time	Weight(approx.)			
						Aluminum		Stainless steel	
mm	inch	ls-1	ls-1	mbar	s	kg	lbs	kg	lbs
63	2½	360	0.45	1,000	0.3	3.3	7.2	5.2	11.5
80	3	850	0.65	1,000	0.3	3.4	7.5	5.5	12.1

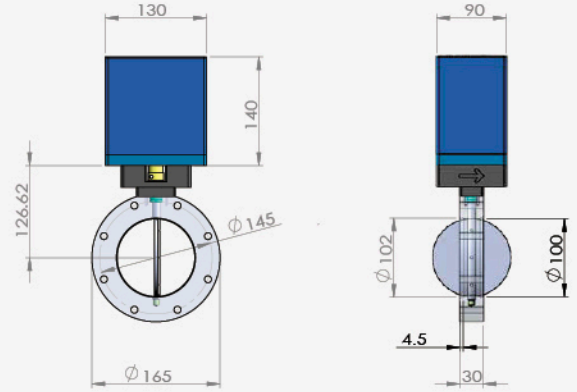
BUTTERFLY

# Non-Sealing

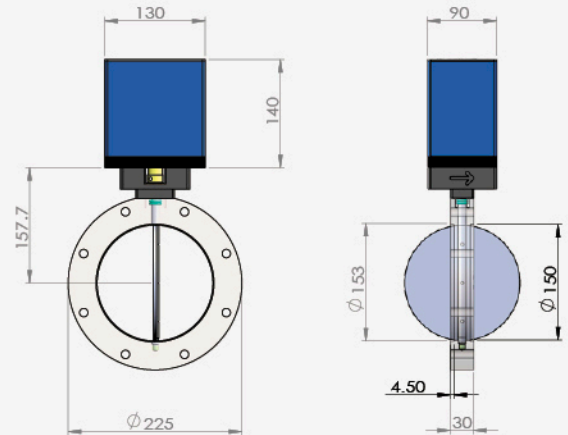
100N / 160N



## 100N



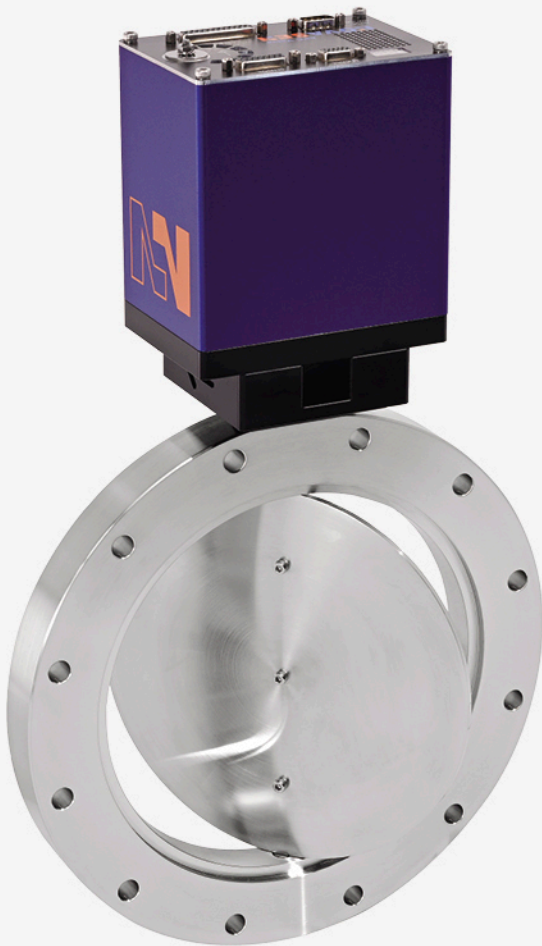
## 160N



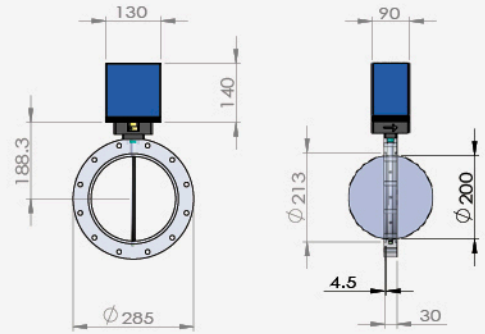
### Product Specification

DN (nominal I.D.)		Conductance in open position (molecular flow)	Minimum controllable conductance (molecular flow)	Max. differential pressure	Typical closing / opening time	Weight(approx.)			
						Aluminum		Stainless steel	
mm	inch	ls-1	ls-1	mbar	s	kg	lbs	kg	lbs
100	4	1,400	0.85	800	0.3	3.6	7.9	6.1	13.4
160	6	3,800	1.7	300	0.3	4.3	9.5	8.3	18.3

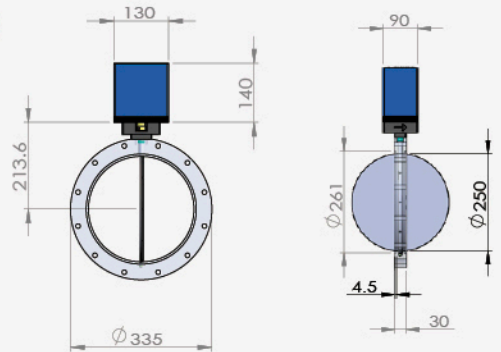
**BUTTERFLY**  
**Non-Sealing**  
 200N / 250N / 320N



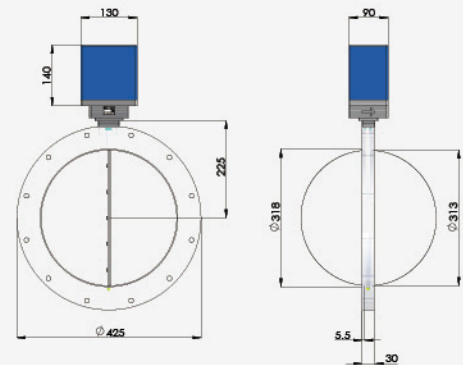
200N



250N



320N

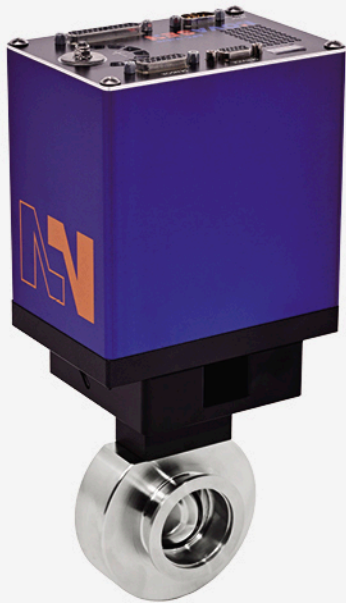


**Product Specification**

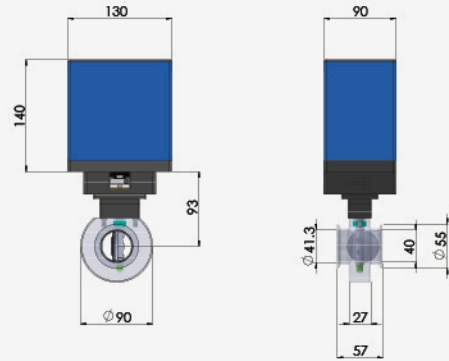
DN (nominal I.D.)		Conductance in open position (molecular flow)	Minimum controllable conductance (molecular flow)	Max. differential pressure	Typical closing / opening time	Weight(approx.)			
						Aluminum		Stainless steel	
mm	inch	ls-1	ls-1	mbar	s	kg	lbs	kg	lbs
200	8	7,800	2.8	150	0.3	5.2	11.5	10.9	24.0
250	10	15,000	5.0	100	0.3	5.9	13.0	13.0	28.7
320	12	27,000	6	75	1	7.7	17.0	18.0	39.6

# BUTTERFLY Sealing

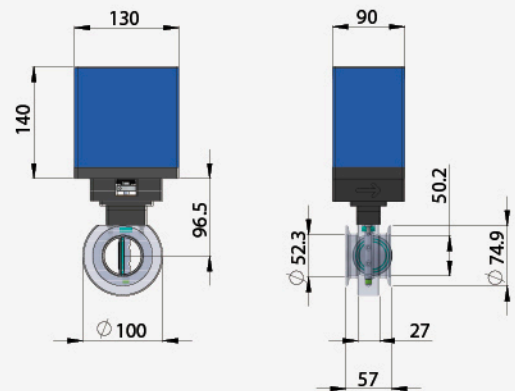
40S / 50S



## 40S



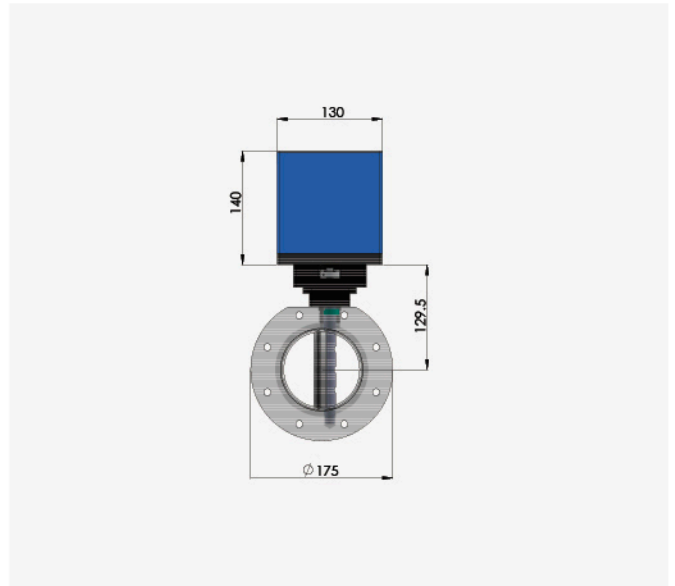
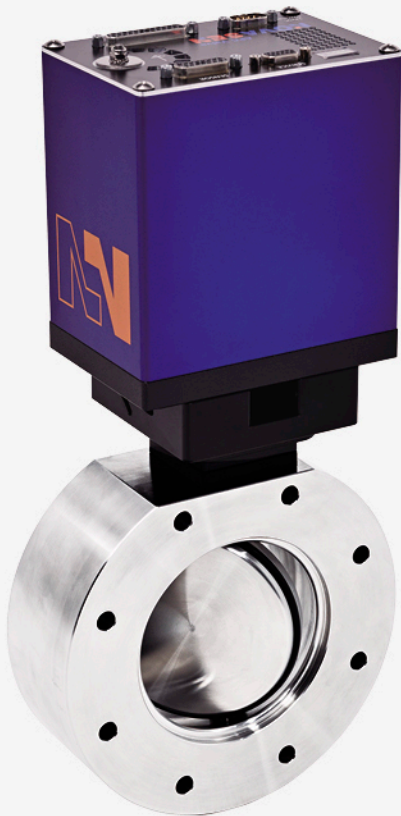
## 50S



## Product Specification

DN (nominal I.D.)		Conductance in open position (molecular flow)	Minimum controllable conductance (molecular flow)	Max. differential pressure	Typical closing / opening time	Weight(approx.)			
mm	inch					Aluminum		Stainless steel	
mm	inch	ls-1	ls-1	mbar	s	kg	lbs	kg	lbs
40	1½	60	0.05	1,000	0.6	2.8	6.2	3.6	7.8
50	2	120	0.1	1,000	0.6	2.9	6.3	3.8	8.4

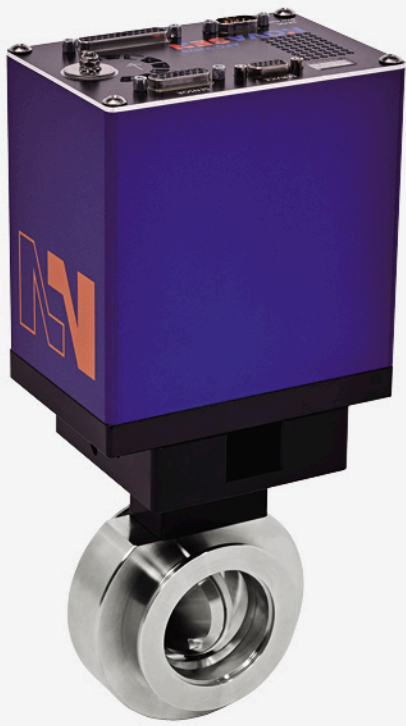
**BUTTERFLY**  
**Sealing**  
100S



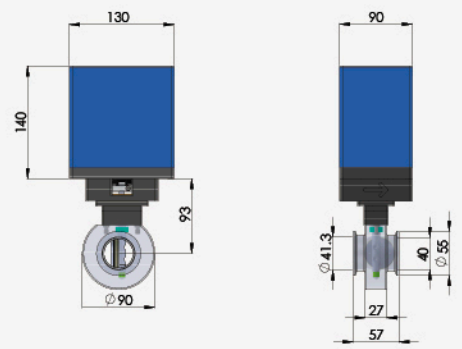
**Product Specification**

DN (nominal I.D.)		Conductance in open position (molecular flow)	Minimum controllable conductance (molecular flow)	Max. differential pressure	Typical closing / opening time	Weight(approx.)			
						Aluminum		Stainless steel	
mm	inch	ls-1	ls-1	mbar	s	kg	lbs	kg	lbs
100	4	600	0.25	1,000	0.6	4.9	10.9	9.9	21.7

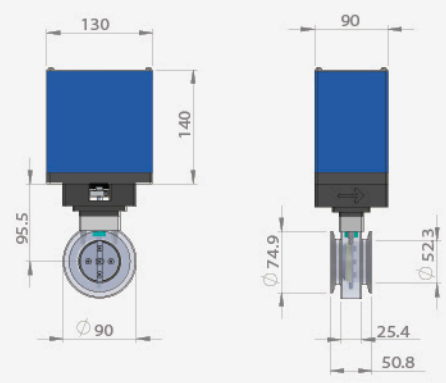
**BUTTERFLY**  
**Sealing (F-cup)**  
 40F / 50F



**40F**



**50F**



**Product Specification**

DN (nominal I.D.)		Conductance in open position (molecular flow)	Minimum controllable conductance (molecular flow)	Max. differential pressure	Typical closing / opening time	Weight(approx.)			
						Aluminum		Stainless steel	
mm	inch	ls-1	ls-1	mbar	s	kg	lbs	kg	lbs
40	1½	31	0.25	1,000	0.6	2.8	6.2	3.6	7.9
50	2	150	0.7	1,000	0.6	2.9	6.4	3.9	8.5

# NOVASEN

## Vacuum Control Systems

NOVASEN provides reliable products and services.





노바센(주)

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