

# Solutions for Control valve Accessories

**TISSIN CO.,LTD.**

**PRODUCTS CATALOG 2023**



- + Smart Valve Positioner
- + Electro-Pneumatic Positioner
- + Volume Booster
- + Lock Up Valve
- + Air Filter Regulator
- + Limit Switch Box
- + Smart Position Transmitter

**tissin**  
Solutions for Control valve Accessories

## Solutions for control valve accessories!

# Tissin Co.,Ltd.

Tissin is a professional brand for control valve accessories in Korea and provides high quality of products that are based on long-term field experience.

Tissin's team members with many experiences who are in charge of the technical department, the sales department and the production department have overcome various problems that have occurred in the field over the years, so with that we have been trying for the customer's trust constantly.

Tissin takes pride in that the company can offer its customers the best and most competitive prices to choose from, as well as our company can solve the problems that other companies can not solve, and solve them through close relationships with our customers.

Tissin's technical department team understands the conditions of the field very well and continues to develop new product lines in the direction that customers want. In addition, Tissin's sales and production department team is using all of its methods to service the most competitive pricing to meet the customer's requirements.

Tissin will be able to do whatever needs to be done whatever the customer wants, in any field.

## Company overview

Company Name	: Tissin Co.,Ltd.
Address	: 201-1105, No 397, Seokcheon-ro, Ojeong-gu, Bucheon-si, Gyeonggi-do, Korea
Established	: May.2015
President	: An Sun Ho
Main Products	: Valve Positioner, Volume Booster, Lock Up Valve, Air Filter Regulator, Control valve accessories.
Homepage	: <a href="http://www.tissin.co.kr">www.tissin.co.kr</a>

## History

- 2022.11 Produced Position transmitter TS500 series
- 2022.11 Produced Limit switch box TS400 series
- 2021.12 Produced Fail freeze type Smart positioner TS700 series
- 2021.04 Certified Technology Innovation-Oriented Small and Medium Enterprise(Inno-Biz)
- 2020.06 Established R&D center
- 2019.04 Certified SIL2 for the TS800,TS900 series
- 2018.04 Produced Smart positioner TS900 series
- 2017.09 Produced Air filter regulator TS300 series
- 2017.08 Certified patent for TS800 torque motor
- 2017.06 Produced Smart positioner TS800 series
- 2017.04 Certified Venture Business
- 2016.07 Certified ISO 9001:2008
- 2016.01 Produced Lock up valve TS200 series
- 2016.01 Produced Volume booster TS100 series
- 2015.09 Produced E-P Positioner TS600 series
- 2015.04 Established Tissin Co.,Ltd.



## + Smart Valve Positioner



TS800



TS805

05-06



TS900



TS905

07-08



TS700

09-10

## + Electro-Pneumatic Positioner



TS600L

11-12



TS600R

13-14

## + Volume Booster



TS100



TS110



TS120

15-16

## + Lock Up Valve



TS200S TS200D



TS205S TS205D

17-18

## + Air Filter Regulator



TS300



TS305

19-20

## + Limit Switch Box



TS400



TS410



TS415

21-22

## + Smart Position Transmitter



TS500



TS510



TS515

23-24

## + Brackets

25-26



# Certifications

03



IECEx



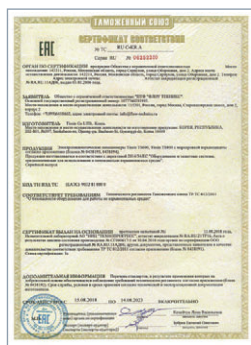
ATEX



CE



CSA/US



EAC



KCS



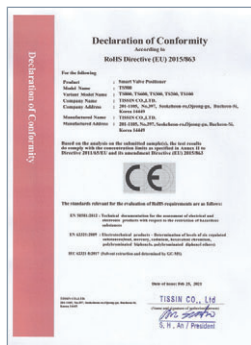
CCC



NEPSI



SIL



RoHS



Inno-Biz



Venture Enterprise



ISO9001:2015



R&amp;D Center



Patent of Invention



HART Membership



Product name	Model	Certificate type	Certificate number	Grade
Smart positioner	TS800 TS820 TS805	IECEX	IECEX EPS 17.0088X	II 2G Ex ia IIC T5/T6 Gb II 2D Ex ia IIIC T100°C/85°C Db IP66
		ATEX	EPS 17 ATEX 1 174 X	
		EAC	RU C-KR.HA65.B.01513/22	0 Ex ia IIC T5/T6 Ga X
		KCS	20-KA2BO-0188X	Ex ia IIC T5/T6
			20-KA2BO-0189X	Ex ia IIIC T85°C/100°C
		CCC	2020322307002407	Ex ia IIC T5/T6 Gb Ex ia IIIC T100/T85 Db
		NEPSI	GYJ18.1239X	Ex ia IIC T5/T6 Gb
		CSA/US	80139740	Class I, Div2, Groups A,B,C,D; T5...T6 Ex ib IIC T5...T6 Gb Class I, Zone 1 AEx ib IIC T5...T6 Gb Class II, Div2, Groups E,F,G; T100°C...T85°C; Class III Ex ib IIIC T100°C...T85°C Db Zone 21 AEx ib IIIC T100°C...T85°C Db
		SIL	FS/71/220/19/0378 (SGS TUV SAAR)	SIL2 at HFT=0 SIL3 at HFT=1
Smart positioner	TS900 TS905	IECEX	IECEX EPS 19.0052X	Ex db IIC T5/T6 Gb Ex tb IIIC T100°C/T85°C Db IP66
		ATEX	EPS19 ATEX1 112 X	
		EAC	RU C-KR.A07.B.01961/20	1Ex d IIC T5/T6 Gb Ex tb IIIC T100°C/T85°C Db
		KCS	18-KA2BO-0294X1	Ex d IIC T6/T5
		CCC	2020322307000493	Ex db IIC T5/T6 Gb Ex tb IIIC T85°C/T100°C Db
		NEPSI	GYJ18.1238X	Ex d IIC T5/T6 Gb
		SIL	FS/71/220/19/0378 (SGS TUV SAAR)	SIL2 at HFT=0 SIL3 at HFT=1
Electro-Pneumatic Positioner	TS600	CCC	2020322307000492	Ex db mb IIC/IIB T5/T6 Gb Ex ia IIC T5/T6 Gb Ex tb IIIC T85°C/T100°C Db
		NEPSI	GYJ21.1313X	Ex dmb IIC T5/T6 Gb
			GYJ21.1314X	Ex ia IIC T5/T6 Gb
		IECEX	IECEX EPS 18.0078X	Ex db mb IIB/IIC T6/T5 Gb Ex ia IIC T6/T5 Gb Ex tb IIIC T85°C/T100°C Db IP66
		ATEX	EPS 18 ATEX 1 156 X	
		EAC	RU C-KR.HA65.B.01513/22	1Ex d mb IIC T5/T6 Gb X 1Ex d mb IIB T5/T6 Gb X
		KCS	16-KA2BO-0353	Ex dmb IIB T5/T6 Gb
			16-KA2BO-0424	Ex dmb IIC T5/T6 Gb





## Description

TS800 Smart Valve Positioner controls the valve stroke in response to an input signal of 4-20mA from the control panel, DCS, or calibrator.

## Certified



## Features



TS800 Standard type



TS805 Stainless steel 316 type



TS800 with Limit switch type

- + Quick and easy auto calibration
- + Large flow pilot valve (Over than 100LPM)
- + Flapper / Nozzle type Torque motor
- + By-pass valve (A/M switch) installed
- + HART communication (HART 7)
- + Limit switch (Mechanical or Proximity type)
- + Partial stroke test (PST) function
- + Alarm function
- + Self diagnostic

## TS820 (Remote type)



TS820 Body

TS820 Sensor

## Interface structure



- |                             |                                  |
|-----------------------------|----------------------------------|
| 1. LCD                      | 6. Position transmitter (Option) |
| 2. Button (4)               | - 2 Wire                         |
| 3. Alarm modules            | - 4~20mA DC feedback signal      |
| 4. Input signal (4~20mA DC) | 7. Limit switch (Option)         |
| 5. Ground                   | - Mechanical type                |
|                             | - Proximity type                 |

## Specifications

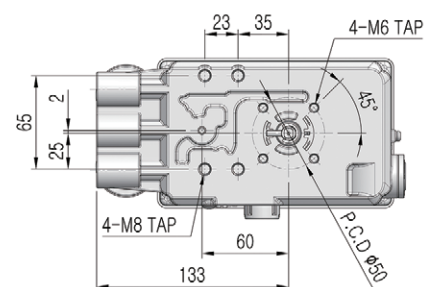
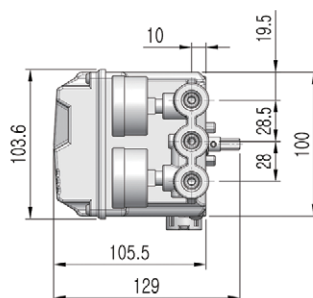
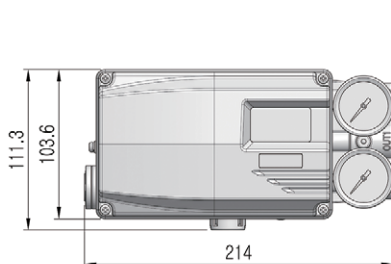
Model		TS800/TS820	TS805
Input signal		4~20mA DC	
Impedance		500Ω at 20mA DC	
Supply pressure		0.14~0.7MPa	
Stroke		10~150mm (Linear), 0~90° (Rotary)	
Air connection		PT1/4, NPT1/4, G1/4	
Gauge connection		PT1/8, NPT1/8	
Conduit		G1/2, NPT1/2, M20	
Explosion proof type	ATEX, CCC, KC	Ex ia IIC T5/T6 Gb Ex ia IIIC T100°C/85°C Db	
	EAC	1 Ex ia IIC T5/T6 Ga	
	CSA/US	Class I, Div2, Groups A,B,C,D; T5...T6 Class I, Zone 1 AEx ib IIC T5...T6 Gb Class II, Div2, Groups E,F,G; T100°C...T85°C Zone 21 AEx ib IIIC T100°C...T85°C Db	
Enclosure	EN60529	IP66	
	NEMA	Type 4	Type4X
Ambient Temp.	Standard type	-30°C~85°C	
	Low temp type	-40°C~85°C	
	Explosion proof	-40°C~60°C(T5) / -40°C~40°C(T6)	
	LCD operating	-30°C~85°C	
Linearity		±0.5% F.S.	
Sensitivity		±0.2% F.S.	
Hysteresis		±0.5% F.S.	
Repeatability		±0.3% F.S.	
Air consumption		Below 2.3LPM (Sup=0.14MPa)	
Required air quality		Class 3 (ISO 8573-1)	
Flow capacity		Over 100LPM (Sup=0.14MPa)	
Material		Aluminum die cast	Stainless steel 316
Weight		2.6kg	4.2kg
HART version*		HART 7	
Position transmitter*	Connection type	2 Wire	
	Supply voltage	10~30V DC	
Limit switch rating*	Mechanical type	AC 125V, 3A DC30V, 2A	
	Proximity type	DC8.2V 8.2A	

\* Options

## Product code

Model	TS800								
Standard type	TS800								
Remote type	TS820								
STS 316 type	TS805								
Acting type	Linear type	L							
	Rotary type	R							
Explosion proof type	Non-explosion proof	N							
	ATEX&IECEX	A							
	CCC&NEPSI KCS, EAC								
	CSA/US	S							
Connection type	Conduit entry	Air connection							
	G1/2	PT1/4	1						
	G1/2	NPT1/4	2						
	NPT1/2	NPT1/4	3						
	M20	NPT1/4	4						
	M20	G1/4	5						
Lever (Linear type)	10 ~ 80mm		1						
	70 ~ 150mm		2						
	Adapter type (30mm)		3						
	Adapter type (70mm)		4						
Lever (Rotary type)	M6 x 39L		1						
	NAMUR		5						
Ambient Temp.	-30°C~85°C						S		
	-40°C~85°C						L		
	-60°C~85°C (For Russia EAC)						U		
Communication	None							0	
	4~20mA Position transmitter							1	
	HART							2	
	HART with 4~20mA Position transmitter							3	
Limit switch (For TS800) & TS805)	None								0
	Mechanical type								M
	Proximity type								P
	With dome cover (Without Limit switch)								D
Cable length (For TS820)	5m								1
	10m								2
	User define (Less than 20 meters)								x

## Dimension [Unit:mm]



# Smart Valve Positioner TS900/TS905 Series (Flame proof type)

07

## Description

TS900 Smart Valve Positioner controls the valve stroke in response to an input signal of 4-20mA from the control panel, DCS, or calibrator.

## Certified

IP<sub>66</sub>

SIL2



## Features



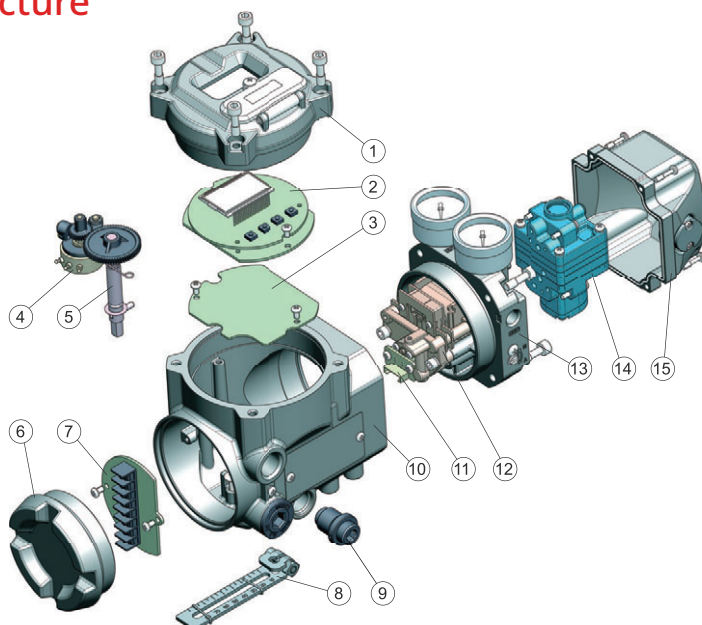
TS900



TS905

- + Quick and easy auto calibration
- + Large flow pilot valve (Over than 100LPM)
- + Flapper / Nozzle type Torque motor
- + By-pass valve (A/M switch) installed
- + HART communication (HART 7)
- + Partial stroke test (PST) function
- + Alarm function
- + Self diagnostic

## Structure



1. Body cover
2. Main PCB
3. PCB guide
4. Potentiometer
5. Main shaft
6. Junction box cover
7. Terminal PCB
8. Feedback lever
9. Drain plug
10. Base body
11. Pressure sensor(Optional)
12. Torque motor
13. Air connection block
14. Pilot valve
15. Pilot valve cover



## Specifications

Model	TS900	TS905
Input signal	4~20mA DC	
Impedance	500Ω at 20mA DC	
Supply pressure	0.14~0.7MPa	
Stroke	10~150mm(Linear), 0~90°(Rotary)	
Air connection	NPT1/4, G1/4	
Gauge connection	NPT1/8	
Conduit	NPT1/2, M20	
Explosion proof type	II 2G Ex db IIC T5/T6 Gb II 2D Ex tb IIIC T85°C/T100 °C Db	
Enclosure	IP66 (EN60529)	
Ambient Temp.	Standard type	-30°C~80°C
	Low temp type	-40°C~80°C
	Explosion proof	-40°C~80°C(T5) / -40°C~70°C(T6)
	LCD operating	-30°C~85°C
Linearity	±0.5% F.S.	
Sensitivity	±0.2% F.S.	
Hysteresis	±0.5% F.S.	
Repeatability	±0.3% F.S.	
Air consumption	Below 2.3LPM (Sup=0.14MPa)	
Required air quality	Class 3 (ISO 8573-1)	
Flow capacity	Over 100LPM (Sup=0.14MPa)	
Material	Aluminum die cast	Stainless Steel 316
Weight	3.5kg	7.0kg
HART version*	HART 7	
Position transmitter*	Connection type	2 Wire
	Supply voltage	9~30V DC
Alarm switch*	9~30V DC	

\* Options

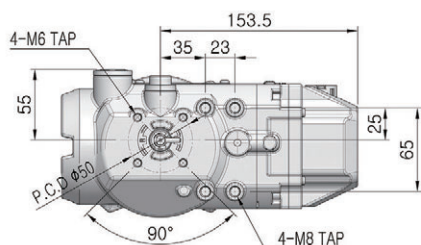
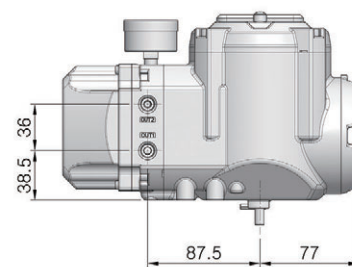
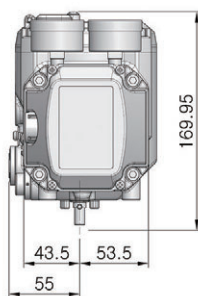
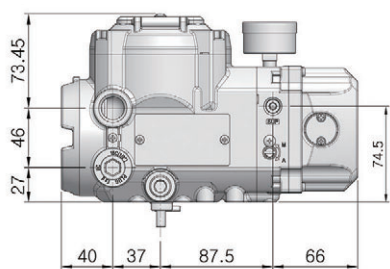
## Product code

Model	TS900	C					
Standard type	TS900						
STS316 type	TS905						
Acting type	Linear type	L					
	Rotary type	R					
Explosion proof type	Ex db IIC T5/T6	C					
Connection type	Conduit entry	Air connection					
	G1/2	PT1/4	1				
	G1/2	NPT1/4	2				
	NPT1/2	NPT1/4	3				
	M20	NPT1/4	4				
	M20	G1/4	5				
Lever (Linear type)	10 ~ 80mm		1				
	70 ~ 150mm		2				
	Adapter type(30mm)		3				
	Adapter type(70mm)		4				
Lever (Rotary type)	M6 x 39L		1				
	NAMUR		5				
Ambient Temp.	-30°C~80°C					S	
	-40°C~80°C					L	
	-60°C~80°C (For Russia EAC)					U	
Communication	None						0
	4~20mA Position transmitter						1
	HART						2
	HART with 4~20mA Position transmitter						3
Alarm switch	None						0
	Included Alarm switch						A

Notes:

1. Conduit entry for ATEX/IECEX/CCC/NEPSI should be "NPT1/2" or "M20".

## Dimension [Unit:mm]



## Description

TS700 Smart Valve Positioner controls the valve stroke in response to an input signal of 4-20mA from the control panel, DCS, or calibrator.

## Certified

In progress

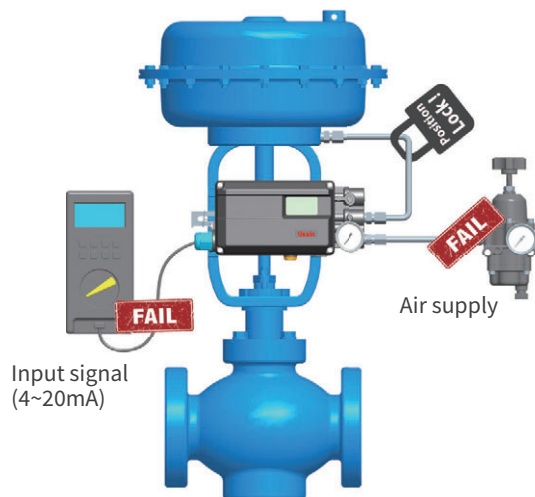
## Features



- + Fail freeze function
- + Zero air consumption when standby signal
- + Prevents circuit board corrosion by external air exhaust design
- + Quick and easy auto calibration
- + Built in air filter(5 micron)
- + HART communication (HART 7)
- + Limit switch (Mechanical or Proximity type)
- + Partial stroke test (PST) function
- + Self diagnostic

## Fail freeze function diagram

When the 4~20mA input signal or air supply signal is fail, cut off the air pressure to the actuator to hold the current valve position



## Built in air filter

Protect the internal Piezo valve by the secondary air filter and the filter can be easily replaced by the user



## Specifications

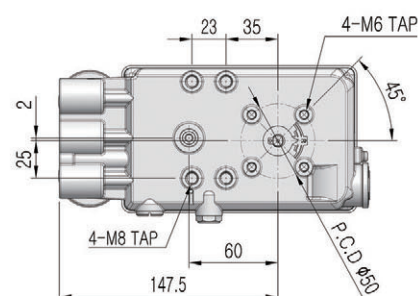
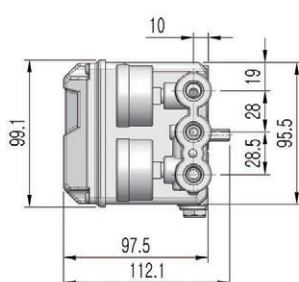
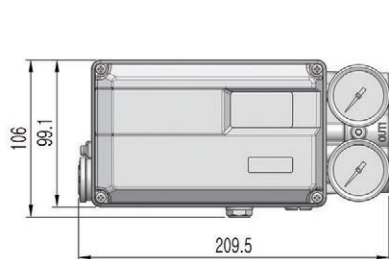
Model	TS700	TS705
Input signal	4~20mA DC	
Impedance	500Ω at 20mA DC	
Supply pressure	0.14~0.8MPa	
Stroke	10~150mm (Linear), 0~90° (Rotary)	
Air connection	PT1/4, NPT1/4, G1/4	
Gauge connection	PT1/8, NPT1/8	
Conduit	G1/2, NPT1/2, M20	
Explosion proof type	In progress	
Enclosure	IP66 (EN60529)	
Ambient Temp.	Standard type	-25°C~80°C
	Low temp type	-40°C~80°C
	Explosion proof	-40°C~60°C(T5) / -40°C~40°C(T6)
	LCD operating	-30°C~85°C
Linearity	±0.5% F.S.	
Sensitivity	±0.2% F.S.	
Hysteresis	±0.5% F.S.	
Repeatability	±0.3% F.S.	
Air consumption	Below 0.01LPM (Sup=0.14MPa)	
Required air quality	Class 4 (ISO 8573-1)	
Flow capacity	Over 75LPM (Sup=0.14MPa)	
Material	Aluminum die cast	Stainless steel 316
Weight	1.5kg	4.0kg
HART version*	HART 7	
Position transmitter*	Connection type	2 Wire
	Supply voltage	10~30V DC
Limit switch rating*	Mechanical type	AC 125V, 3A DC30V, 2A
	Proximity type	DC8.2V 8.2A

\* Options

## Product code

Model	TS700								
Standard type	TS700								
Remote type	TS720								
Stainless steel 316	TS705								
Motion type	Linear	L							
	Rotary	R							
Acting type	Single acting	S							
	Double acting	D							
Explosion proof type	Non-explosion proof	N							
	ATEX&IECEX	A							
	CCC&NEPSI	C							
	KCS	K							
Connection type	Conduit entry	Air connection							
	G1/2	PT1/4	1						
	G1/2	NPT1/4	2						
	NPT1/2	NPT1/4	3						
	M20	NPT1/4	4						
	M20	G1/4	5						
Lever (Linear type)	10 ~ 80mm		1						
	70 ~ 150mm		2						
	Adapter type (30mm)		3						
	Adapter type (70mm)		4						
Lever (Rotary type)	M6 x 39L		1						
	NAMUR		5						
Ambient Temp.	-25°C~80°C						S		
	-40°C~80°C						L		
Communication	None							0	
	4~20mA Position transmitter							1	
	HART							2	
	HART with 4~20mA Position transmitter							3	
Limit switch (For TS700) & TS705)	None								0
	Mechanical type								M
	Proximity type								P
	With dome cover (Without Limit switch)								D
Cable length (For TS720)	5m								1
	10m								2
	User define (Less than 20 meters)								x

## Dimension [Unit:mm]



## Description

TS600 Electro-Pneumatic Positioner controls the valve stroke in response to an input signal of 4-20mA from the control panel, DCS, or calibrator.

## Certified



## Features

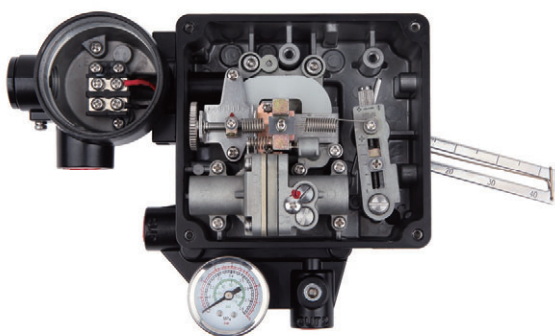


- + Fast response time and excellent stability
- + Simple zero and span adjustment
- + IP 66 enclosure
- + Strong anti vibration performance
- + By-pass valve (A/M switch) installed
- + Air connection part is designed for detachability and it can be changed PT/NPT tapping threads in the field easily
- + Integrated Flameproof and Intrinsically safe protection (ATEX&IECEX version)

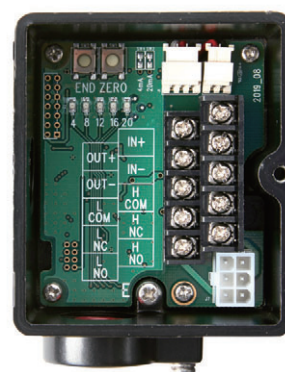
## Installation example



## Internal structure



## Position transmitter PCB



## Specifications

Model	TS600L(Single)	TS600L(Double)
Input signal	4~20mA DC	
Impedance	250 $\pm$ 15 $\Omega$	
Supply pressure	0.14~0.7MPa	
Stroke	10~150mm	
Air connection	PT1/4, NPT1/4, G1/4	
Gauge connection	PT1/8, NPT1/8	
Conduit	G(PF)1/2, NPT1/2, M20	
Explosion proof type	Ex db mb IIB/IIC T6/T5 Gb Ex ia IIC T6/T5 Gb Ex tb IIC T85°C/T100°C Db	
Intrinsically safe parameters	Ui=28V, li=101mA, Pi=707mV	
Enclosure	IP66 (EN60529)	
Ambient Temp.	Operating Temp. -20°C~70°C (Standard type) Explosion proof -40°C~60°C(T5) / -40°C~40°C(T6)	
Linearity	$\pm$ 1.0% F.S.	$\pm$ 2.0% F.S.
Sensitivity	$\pm$ 0.2% F.S.	$\pm$ 0.5% F.S.
Hysteresis	$\pm$ 1.0% F.S.	
Repeatability	$\pm$ 0.5% F.S.	
Air consumption	Below 2.5LPM (Sup=0.14MPa)	
Flow capacity	Over 80LPM (Sup=0.14MPa)	
Material	Aluminum die cast	
Weight	2.8kg	

## Product code

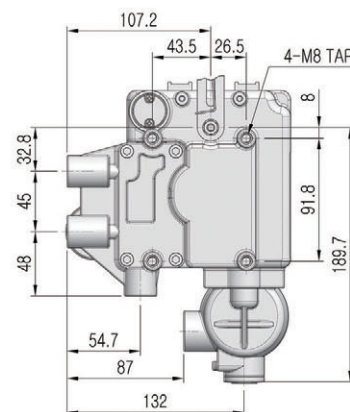
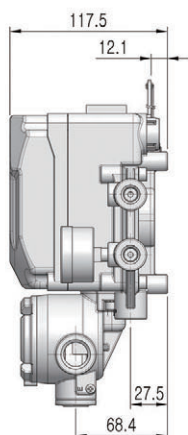
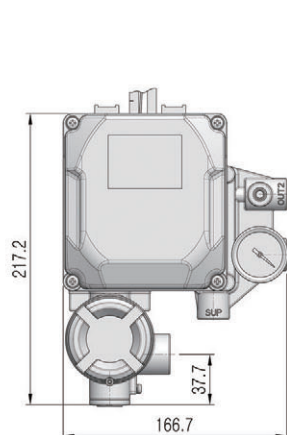
Model	TS600	L					
Acting type	Linear type	L					
Explosion proof type	Non-explosion proof	N					
	Ex dmb IIB T5/T6	B					
	Ex dmb IIC T5/T6	C					
	Ex ia IIC T5/T6	A					
	ATEX&IECEx version	X					
	Ex db mb IIB/IIC T5/T6 Gb						
	Ex ia IIC T5/T6 Gb						
Connection	Conduit entry	Air connection					
	G1/2	PT1/4	1				
	G1/2	NPT1/4	2				
	NPT1/2	NPT1/4	3				
	M20	NPT1/4	4				
	M20	G1/4	5				
Lever type	10 ~ 40mm		1				
	40 ~ 70mm		2				
	70 ~ 100mm		3				
	100 ~ 150mm		4				
Ambient Temp.	-20°C~70°C					S	
	-20°C~120°C *					H	
	-40°C~70°C					L	
	-60°C~70°C(For Russia EAC)					U	
Option	None (Standard type)						0
	With 4~20mA Position transmitter (Positioner is RA type) *						1
	With 4~20mA Position transmitter (Positioner is DA type) *						2

Notes:

1. \* Must be Non-explosion proof type.

2. Conduit entry for ATEX/IECEx/CCC/NEPSI should be "NPT1/2" or "M20".

## Dimension [Unit:mm]





# Electro-Pneumatic Positioner TS600R (Rotary type)

13

## Description

TS600 Electro-Pneumatic Positioner controls the valve stroke in response to an input signal of 4-20mA from the control panel, DCS, or calibrator.

## Certified



## Features



- + Fast response time and excellent stability
- + Simple zero and span adjustment
- + IP 66 enclosure
- + Strong anti vibration performance
- + By-pass valve (A/M switch) installed
- + Air connection part is designed for detachability and it can be changed PT/NPT tapping threads in the field easily
- + Integrated Flameproof and Intrinsically safe protection (ATEX&IECEX version)

## Options



Option code No.1  
TS600R with Position transmitter  
(Non-explosion proof type)



Option code No.2 or No.4  
TS600R with Limit switch  
(Non-explosion proof type)



Option code No.3 or No.5  
TS600R with Limit switch  
(Explosion proof type)



Option code No.6 or No.7  
With external Limit switch  
mounting device



For KCS certificate type



Position transmitter PCB

## Specifications

Model	TS600R(Single)	TS600R(Double)
Input signal	4~20mA DC	
Impedance	250 ±15Ω	
Supply pressure	0.14~0.7MPa	
Stroke	0~90°	
Air connection	PT1/4, NPT1/4, G1/4	
Gauge connection	PT1/8, NPT1/8	
Conduit	G(PF)1/2, NPT1/2, M20	
Explosion proof type	Ex db mb IIC T6/T5 Gb Ex ia IIC T6/T5 Gb	
Intrinsically safe parameters	Ui=28V, Ii=101mA, Pi=707mV	
Enclosure	IP66 (EN60529)	
Ambient Temp.	Operating Temp.	-20°C~70°C (Standard type)
	Explosion proof	-40°C~60°C(T5) / -40°C~40°C(T6)
Linearity	±1.0% F.S.	±2.0% F.S.
Sensitivity	±0.2% F.S.	±0.5% F.S.
Hysteresis	±1.0% F.S.	
Repeatability	±0.5% F.S.	
Air consumption	Below 2.5LPM (Sup=0.14MPa)	
Flow capacity	Over 80LPM (Sup=0.14MPa)	
Material	Aluminum die cast	
Weight	2.8kg	

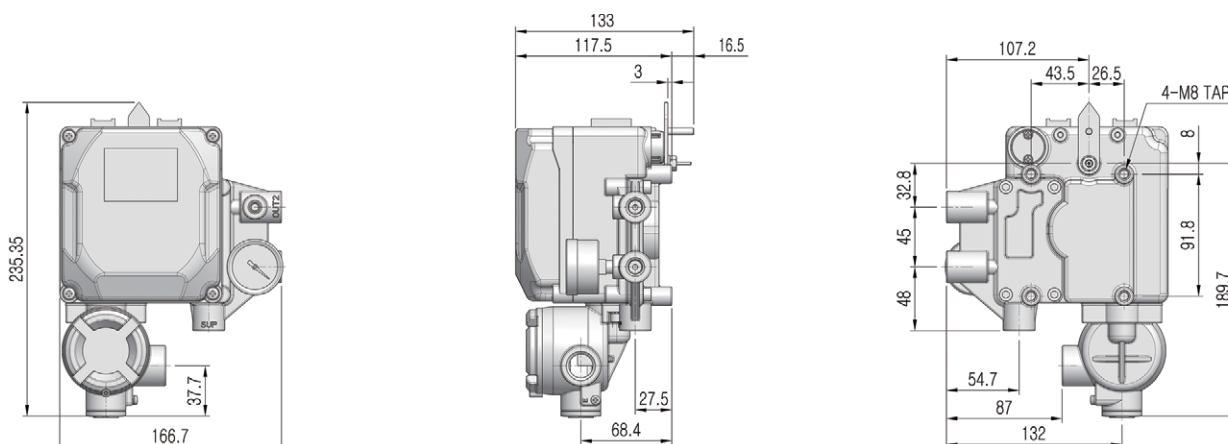
## Product code

Model	TS600	R						
Acting type	Rotary type	R						
Explosion proof type	Non-explosion proof	N						
	Ex dmb IIB T5/T6	B						
	Ex dmb IIC T5/T6	C						
	Ex ia IIC T5/T6	A						
	ATEX&IECEx version Ex db mb IIC T6/T5 Gb Ex ia IIC T6/T5 Gb	X						
Connection	Conduit entry	Air connection						
	G1/2	PT1/4	1					
	G1/2	NPT1/4	2					
	NPT1/2	NPT1/4	3					
	M20	NPT1/4	4					
	M20	G1/4	5					
Lever type	M6 x 39L		1					
	NAMUR		5					
Ambient Temp.	-20°C~70°C						S	
	-20°C~120°C *						H	
	-40°C~70°C						L	
	-60°C~70°C(For Russia EAC)						U	
Option	None							0
	With Position transmitter(4~20mA)							1
	Internal Limit switch*							2
	External Limit switch(Explosion proof type)							3
	Internal Position transmitter and Limit switch*							4
	External Position transmitter and Limit switch (Explosion proof type)							5
	With external Limit switch mounting device							6
	With Position transmitter and external Limit switch mounting device*							7

Notes:

- \* Must be Non-explosion proof type.
- Conduit entry for ATEX/IECEx/CCC/NEPSI should be "NPT1/2" or "M20".

## Dimension [Unit:mm]



## Description

Volume Booster TS100 is one-to-one Signal to output supply Air, when used with a positioner/actuator, it is a control device to increase the stroking speed of control valves.

## Features



TS100



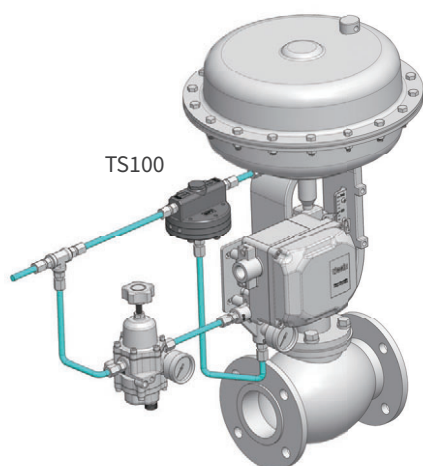
TS110



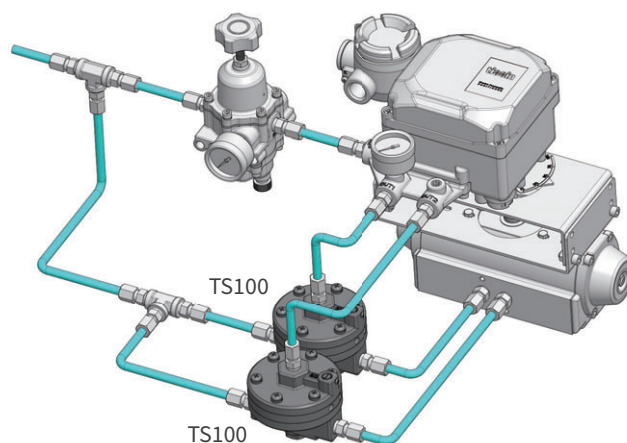
TS120

- + Precise and fast response
- + Soft seats provide tight shut off
- + Adjustable Sensitivity
- + Options available (High and Low temperature)
- + Speed up valve regulation

## Installation examples



Single actuator

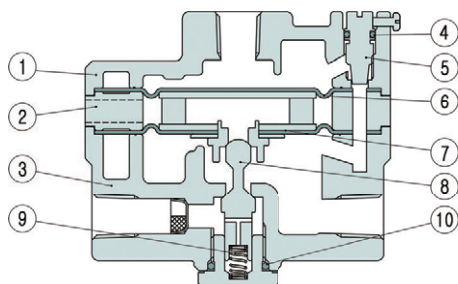


Double actuator

## Specifications

Model		TS100	TS110	TS120
				
Max supply pressure		1MPa	1MPa	1MPa
Signal and output pressure		0.14~0.7MPa	0.14~0.7MPa	0.14~0.7MPa
Signal to output ratio		1:1	1:1	1:1
Linearity		1%	1%	1%
Flow capacity (CV)	Exhaust	1.3	2.1	5.2
	Output	1.2	2.7	4.9
Signal port		NPT1/4, PT1/4	NPT1/4, PT1/4	NPT1/4
Supply / Output port		NPT1/4, PT1/4	NPT1/2, PT1/2	NPT3/4
Ambient temperature	Standard type	-20°C~70°C	-20°C~70°C	-20°C~70°C
	High Temp.	-20°C~120°C	-20°C~120°C	-20°C~120°C
	Low Temp.	-40°C~70°C	-40°C~70°C	-40°C~70°C
Material		Aluminum die cast	Aluminum die cast	Aluminum die cast
Weight		0.55kg	0.75kg	1.9kg

## Materials of construction



No.	Title	Material	No.	Title	Material
1	Cover	ALDC12	6	Diaphragm upper	NBR
2	Ring exhaust	ALDC12	7	Ass'y diaphragm	AL/NBR
3	Body	ALDC12	8	Poppet	STS
4	O-ring	NBR	9	Spring seat	STS
5	Adjust screw	STS	10	O-ring	NBR

## Product code

Model				
Supply / Output port	1/4"	TS100		
	1/2"	TS110		
	3/4"	TS120		
Air connection type	NPT		N	
	PT			
Ambient temperature	-20°C~70°C			S
	-20°C~120°C			H
	-40°C~70°C			L
	-60°C~70°C			U

## Description

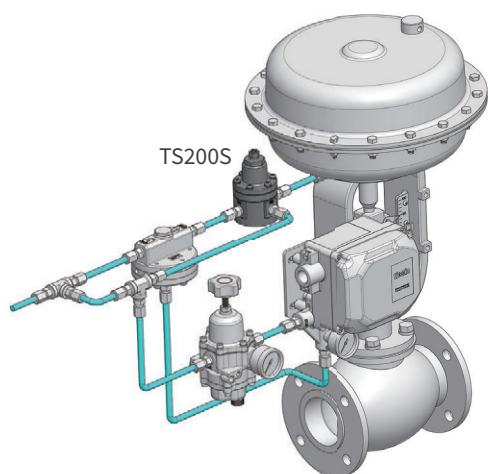
The pneumatic Lock Up Valve TS200 series shuts off the signal pressure line either when the air supply falls below an adjusted value or upon complete air supply failure. This causes the actuator to remain in its last position.

## Features

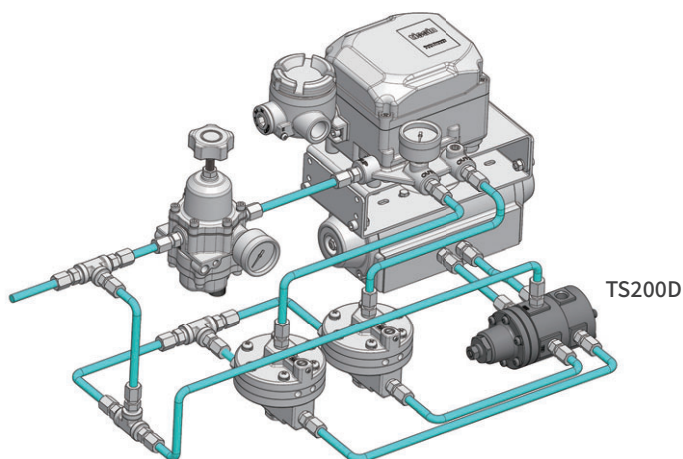


- + Quick Response and high precision
- + Easy set-up of lock up air pressure
- + Small size and light weight
- + Options available (High & Low Temperature)

## Installation examples



Single actuator



Double actuator



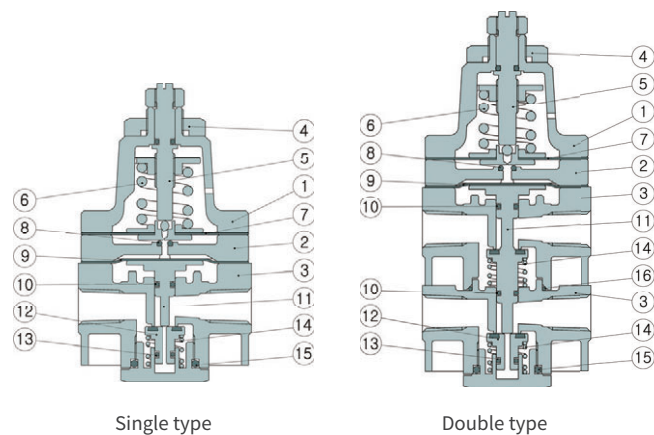
## Specifications

Model	TS200S	TS200D	TS205S	TS205D
Signal pressure	0.14~0.7MPa			
Max supply pressure	1MPa			
Max lock up pressure	0.7MPa			
Differential pressure	Below 0.01MPa			
Flow capacity(CV)	0.9			
Signal connection	NPT1/4, PT1/4			
In/Out connection	NPT1/4, PT1/4			
Operating temperature	-20°C~70°C(Standard type)			
Material	Aluminum die cast		Stainless steel 316	
Weight	0.45kg	0.63kg	1.17kg	1.61kg

## Product code

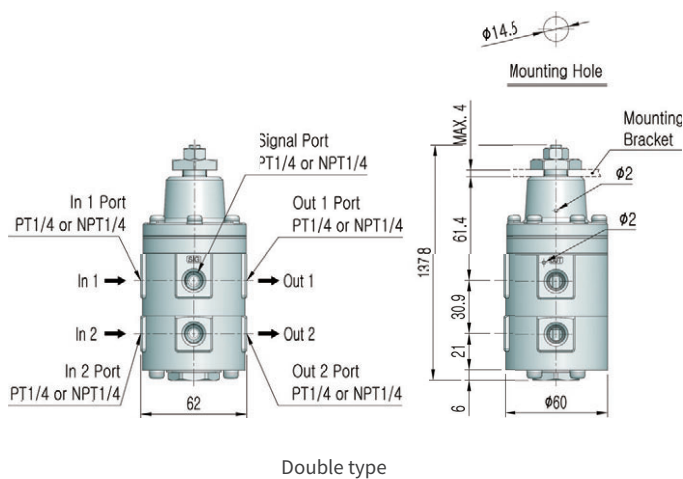
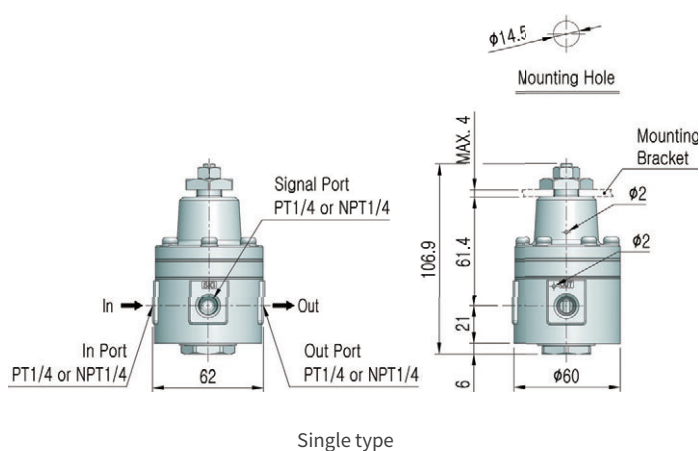
Model				
Model	Standard type	TS200		
	Stainless steel 316	TS205		
Acting type	Single		S	
	Double		D	
Air connection	NPT1/4			N
	PT1/4			P
Ambient temperature	-20°C~70°C			S
	-20°C~120°C			H
	-40°C~70°C			L
	-60°C~70°C			U

## Material of construction



No.	Title	TS200	TS205
1	Cover	ALDC12	STS316
2	Ring	ALDC12	STS316
3	Body	ALDC12	STS316
4	Mounting nut	STS	STS316
5	Shaft adjust	STS	STS316
6	Spring adjust	HSW3	STS
7	Ass'y diaphragm	STS/NBR	STS/NBR
8	O-ring	NBR	NBR
9	Diaphragm lower	NBR/SILICONE	NBR/SILICONE
10	O-ring	NBR	NBR
11	Shaft push	C3604BD	STS316
12	Seat	C3604BD	STS316
13	O-ring	NBR	NBR
14	Spring seat	STS	STS
15	O-ring	NBR	NBR
16	O-ring	NBR	NBR

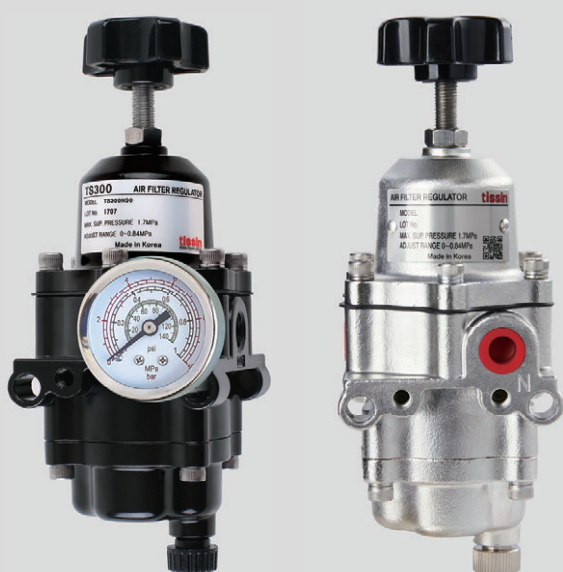
## Dimension [Unit:mm]



## Description

Air filter regulator TS300 series are used to provide pneumatic measuring and control equipment with a constant air supply.

## Features

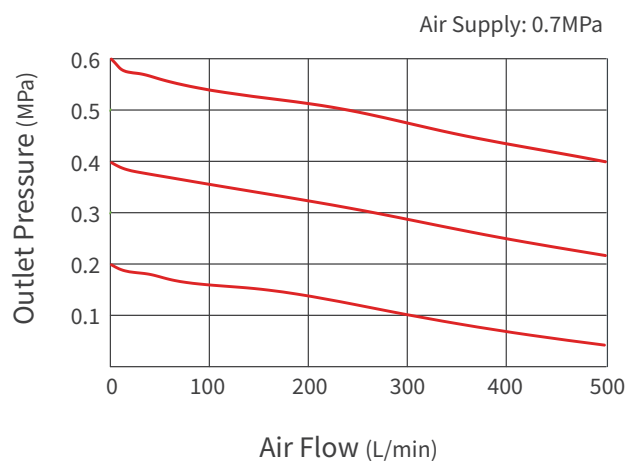


TS300

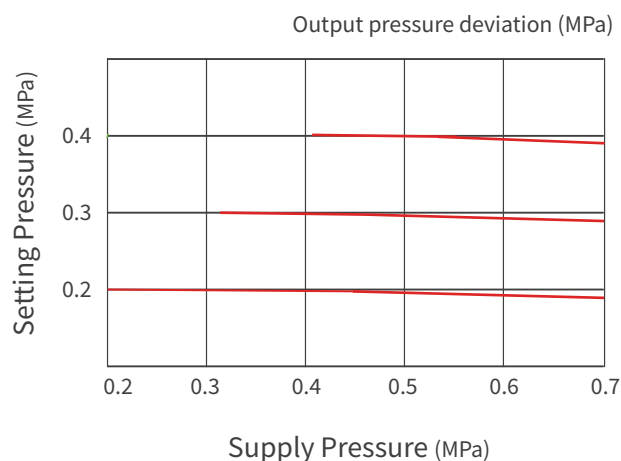
TS305

- + Remove particles from compressed air
- + Excellent flow and regulation characteristics
- + Filter and Regulator in one compact unit
- + Easy Installation, Repair and Replacement
- + 2 gauge port allows you to select installation direction
- + 5 micron filter

## Flow characteristics



## Pressure characteristics



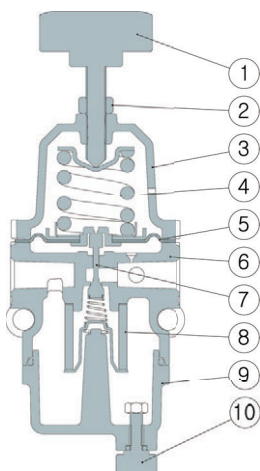
## Specifications

Model	TS300	TS305
Max supply pressure	1.7MPa	
Max output pressure	0.84MPa	
Air connection	NPT1/4, PT1/4	
Gauge connection	NPT1/4, PT1/4	
Operating Temp.	-20°C~70°C (Standard type)	
Filtering capacity	5 micron	
Material	Aluminum die cast	Stainless steel 316
Weight	0.6kg	1.5kg

## Product code

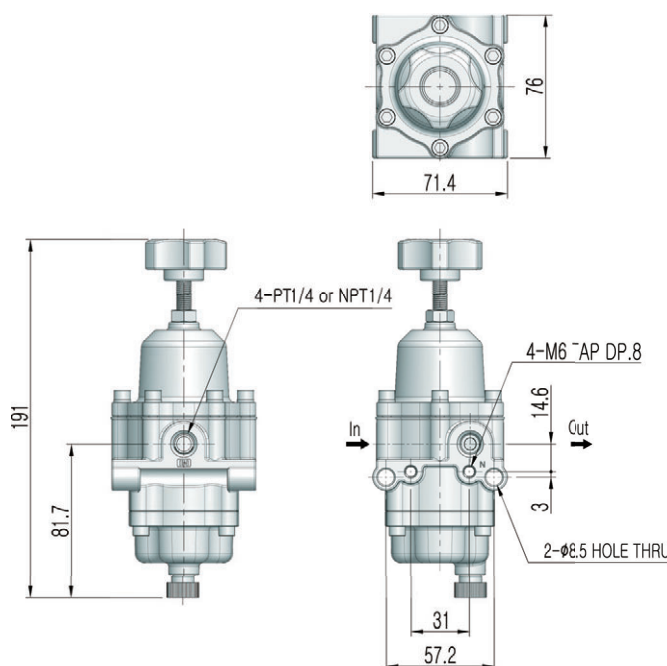
Model				
Model	Standard type	TS300		
	Stainless steel 316	TS305		
Air connection type	NPT1/4		N	
	PT1/4		P	
Ambient temperature	-20°C~70°C			S
	-20°C~120°C			H
	-40°C~70°C			L
	-60°C~70°C			U
Pressure gauge	None			0
	Included (0~1MPa)			1

## Material of construction



No.	Material	TS300	TS305
1	Adjust Handle	Nylon/STS	Nylon/STS
2	Nut	STS	STS303
3	Spring Cover	ALDC12	STS316
4	Adjust Spring	HSW3	STS316
5	Diaphragm Ass'y	STS/NBR	STS/NBR
6	Body	ALDC12	STS316
7	Stem	C3604BD/NBR	STS303/NBR
8	Filter	Poly Ethylene	Poly Ethylene
9	Filter Cover	ALDC12	STS316
10	Drain	Nylon/STS	STS316

## Dimension [Unit:mm]



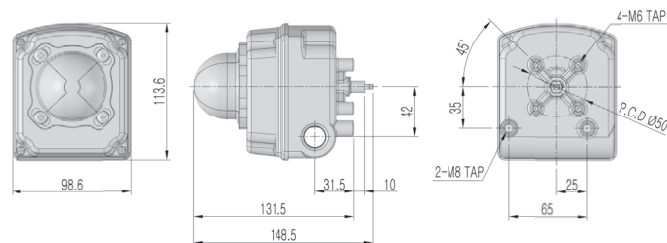
## Description

Limit switch box is a device which notifies the central control room or controller when the valve reaches the set position.

## Features



## Dimension [Unit:mm]



- + Compact design with high visibility indicator
- + Aluminum die casting with polyester powder coating
- + With spring loaded cams, easily set limit positions
- + Dual cable entries
- + NAMUR VDI/VDE 3845

## Specifications

Model		TS400M	TS400P
Switch type		Mechanical switch 2xSPDT	Inductive proximity sensor
		KW3A-16Z3-A100 (Dongnan)	PSN17-5DNU (Autonics)
Switch rating	AC	16A,125/250V	-
	DC	30V, 10A	10~30V
Ingress protection		IP67	
Conduit entry		2 x NPT1/2, G(PF)1/2, M20	
Ambient Temp.		-25°C~70°C (Standard type)	
Terminal		8 Points	
Material		Aluminum die cast	
Painting		Polyester powder coating	
Weight		0.7kg	

## Product code

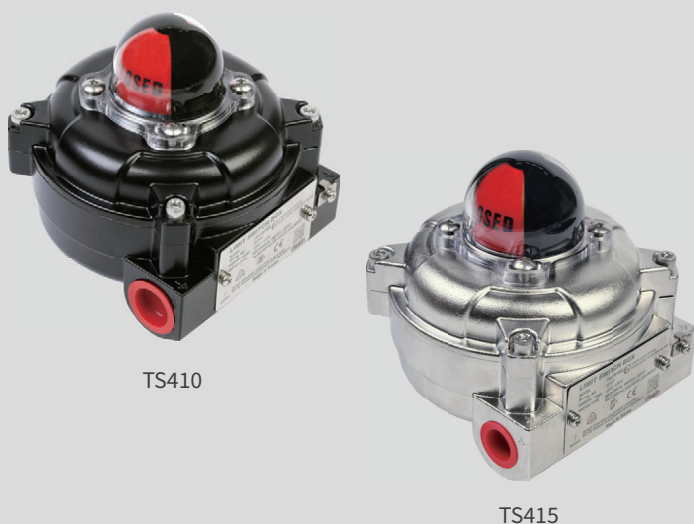
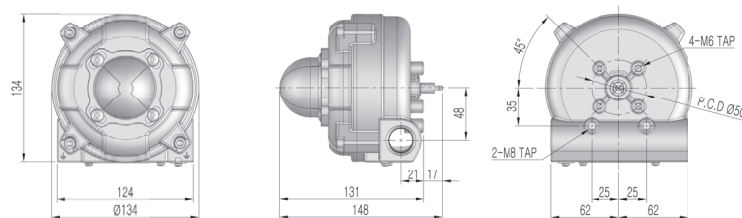
Model		TS400				
Switch type	Mechanical(2xSPDT)	M				
	Proximity	P				
	Mechanical (2xDPDT)	D				
Conduit entry	NPT1/2		1			
	M20x1.5P		2			
	G1/2		3			
Ambient temperature	-25°C~70°C			S		
	-50°C~70°C			L		
Bracket type	None					0
	ST-1 (30x80,H20)					1
	ST-2 (30x80,H30)					2
	ST-3 (30x130,H30)					3
	ST-4 (30x130,H50)					4

## Description

Limit switch box is a device which notifies the central control room or controller when the valve reaches the set position

## Features

## Dimension [Unit:mm]



- + Flame proof type
- + Compact design with high visibility indicator
- + Aluminum die casting with polyester power coating
- + With spring loaded cams, easily set limit positions
- + Dual cable entries
- + NAMUR VDI/VDE 3845

## Specifications

Model		TS410M	TS415M	TS410P	TS415P
Switch type		Mechanical switch 2xSPDT		Inductive proximity sensor	
		KW3A-16Z3-A100 (Dongnan)		PSN17-5DNU (Autonics)	
Switch rating	AC	16A,125/250V		-	
	DC	30V, 10A		10~30V	
Explosion proof		Ex db IIC T5/T6 Gb Ex tb IIIC T85°C/T100°C Db			
Ingress protection		IP67			
Conduit entry		2 x NPT1/2, NPT3/4, M20, M25			
Ambient Temp.		-25°C~70°C (Standard type)			
Terminal		8 Points			
Painting		Polyester powder coating	-	Polyester powder coating	-
Material		Aluminum die cast	STS 316	Aluminum die cast	STS 316
Weight		1.3kg	3.2kg	1.3kg	3.2kg

## Product code

Model	TS410				
Material	Aluminum	TS410			
	STS 316	TS415			
Switch type	Mechanical(2xSPDT)	M			
	Proximity	P			
	Mechanical (2xDPDT)	D			
Conduit entry	NPT1/2		1		
	M20x1.5P		2		
	NPT3/4		3		
	M25x1.5P		4		
Ambient temperature	-25°C~70°C			S	
	-40°C~70°C			L	
	-60°C~70°C(For Russia EAC)			U	
Bracket type	None				0
	ST-1 (30x80,H20)				1
	ST-2 (30x80,H30)				2
	ST-3 (30x130,H30)				3
	ST-4 (30x130,H50)				4



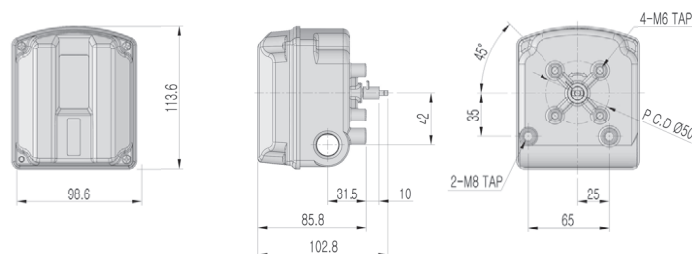
## Description

TS500 Series is 2 wire type transmitter which transmits 4 ~ 20 mA DC signal according to changes in valve or damper position.

## Features



## Dimension [Unit:mm]



- + 2 wire connection type
- + LCD displays current output signal
- + Easy and simple setting with 2 buttons
- + High accuracy and reliability
- + Two or five points smart setup

## Specifications

Model	TS500
Connection type	2 Wire
Supply voltage	9~28V DC
Output signal	4~20mA
Explosion proof	Non-explosion proof
Ingress protection	IP67
Conduit entry	2 x NPT1/2, G1/2, M20
Ambient Temp.	-40°C~70°C (Standard type)
Linearity	±1% F.S.
Hysteresis	±0.2% F.S.
Sensitivity	±0.2% F.S.
Material	Aluminum die cast
Painting	Polyester powder coating
Weight	0.6kg

## Product code

Model	TS500				
Motion type	Linear Rotary	L R			
Conduit entry	NPT1/2 M20x1.5P G1/2		1 2 3		
Lever type	Linear (10~80mm) Linear (70~150mm) Rotary (NAMUR)			1 2 5	
Option	With LCD Without LCD				1 2



## Description

TS500 Series is 2 wire type transmitter which transmits 4 ~ 20 mA DC signal according to changes in valve or damper position.

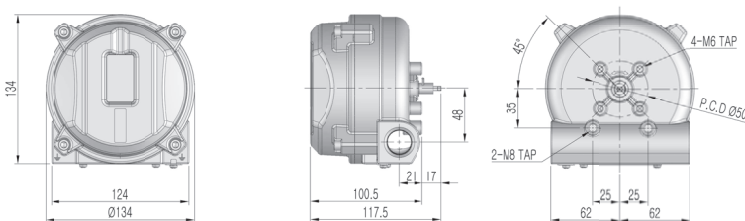
## Features



TS510

TS515

## Dimension [Unit:mm]



- Flame proof type
- LCD displays current output signal
- Easy and simple setting with 2 buttons
- High accuracy and reliability
- Two or five points smart setup
- Limit switch option

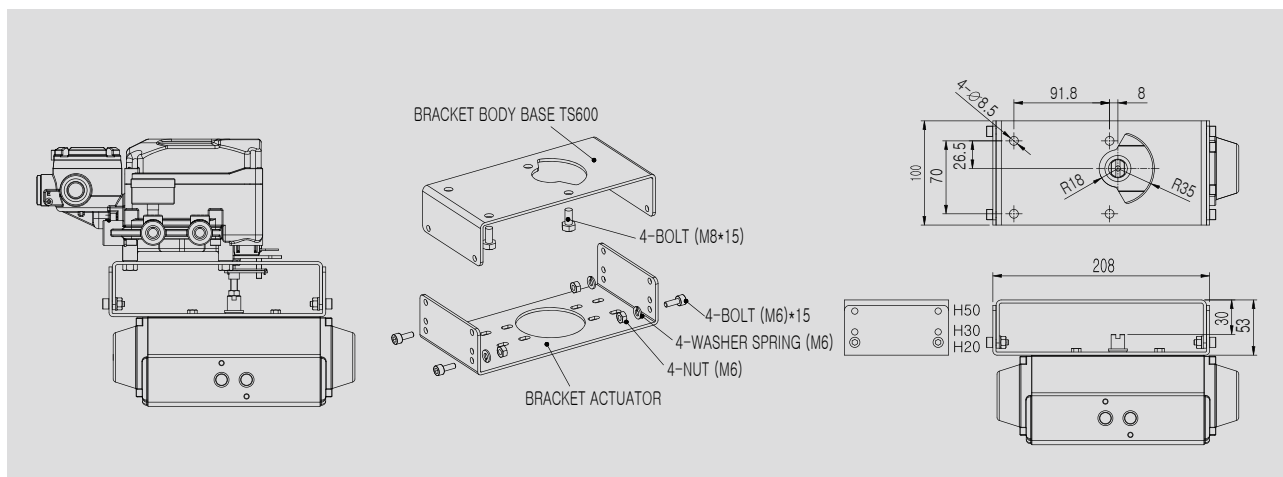
## Specifications

Model	TS510	TS515
Connection type	2 Wire	
Supply voltage	9~28V DC	
Output signal	4~20mA DC	
Explosion proof	Ex db IIC T5/T6 Gb Ex tb IIIC T85°C/T100°C Db	
Ingress protection	IP67	
Conduit entry	2 x NPT1/2, NPT3/4, M20, M25	
Explosion proof Temp.	-40°C~80°C (T5)/-40°C~70°C (T6)	
Ambient Temp.	-40°C~70°C (Standard type)	
Linearity	±1% F.S.	
Hysteresis	±0.2% F.S.	
Sensitivity	±0.2% F.S.	
Material	Aluminum die cast	Stainless steel 316
Painting	Polyester powder coating	-
Weight	1.4kg	3.3kg

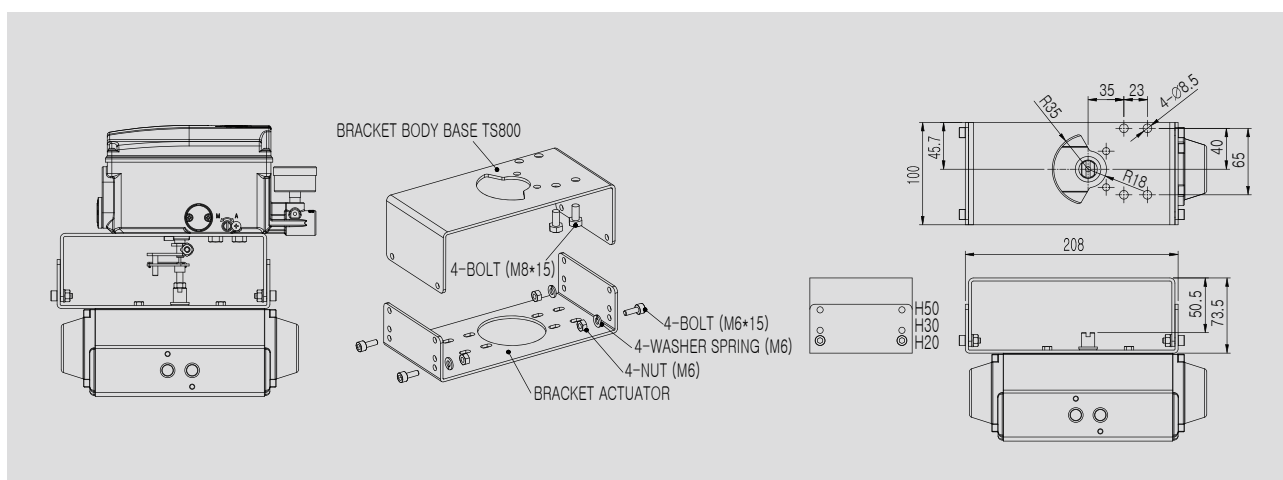
## Product code

Model	TS510					
Material	Aluminum STS 316	TS510 TS515				
Motion type	Linear Rotary	L R				
Conduit entry	NPT1/2 M20x1.5P NPT3/4 M25x1.5P		1 2 3 4			
Lever type	Linear (10~80mm) Linear (70~150mm) Rotary (NAMUR)		1 2 5			
Ambient temperature	-40°C~70°C -60°C~70°C(For Russia EAC)			S U		
Option	With LCD Without LCD With Limit switch and Dome cover With Limit switch and LCD				1 2 3 4	

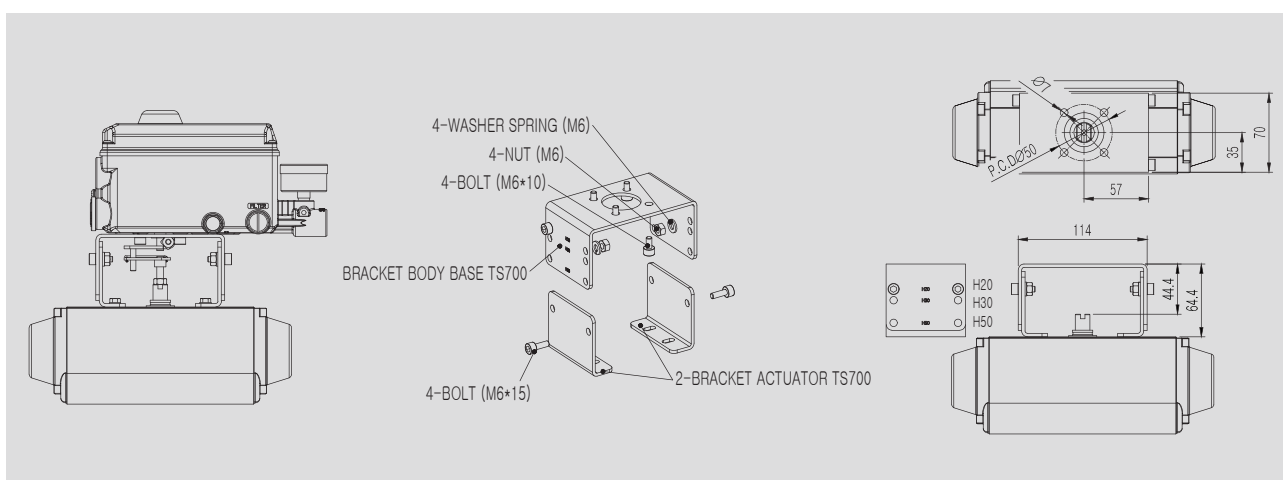
### TS600R Bracket



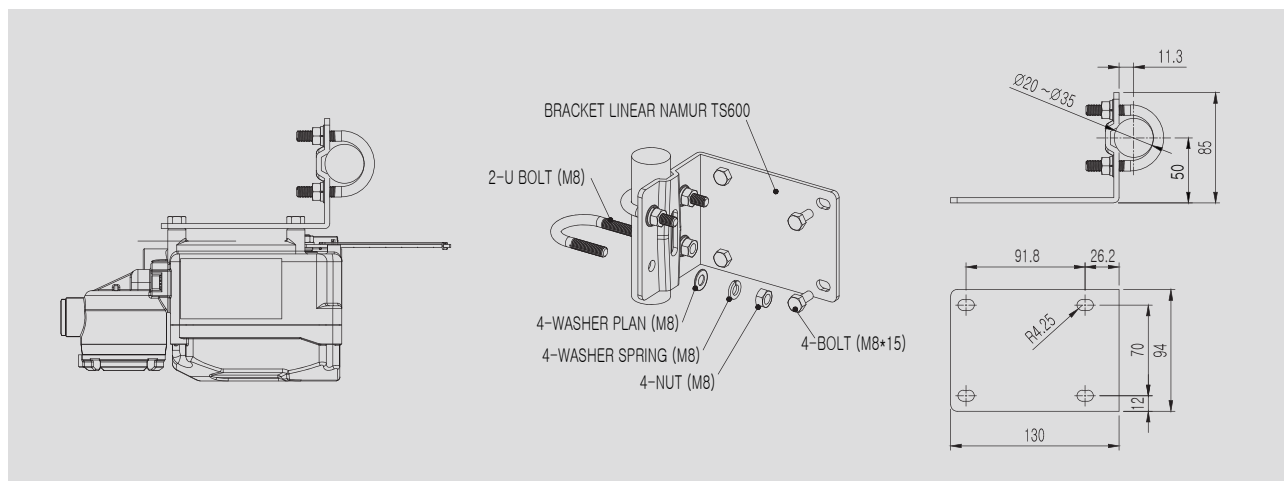
### TS800R / TS900R Bracket



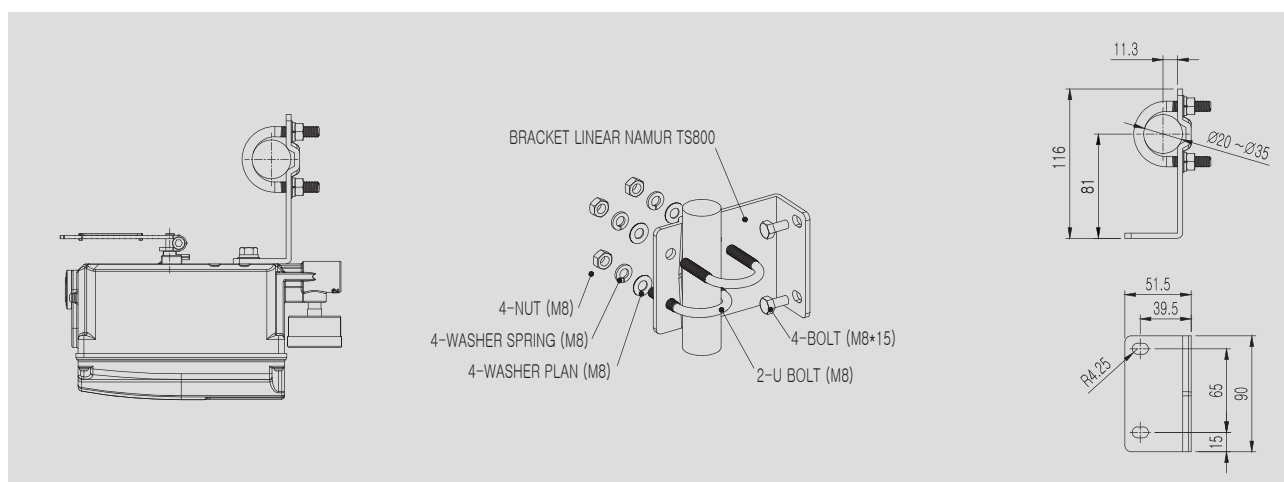
### TS700R Bracket



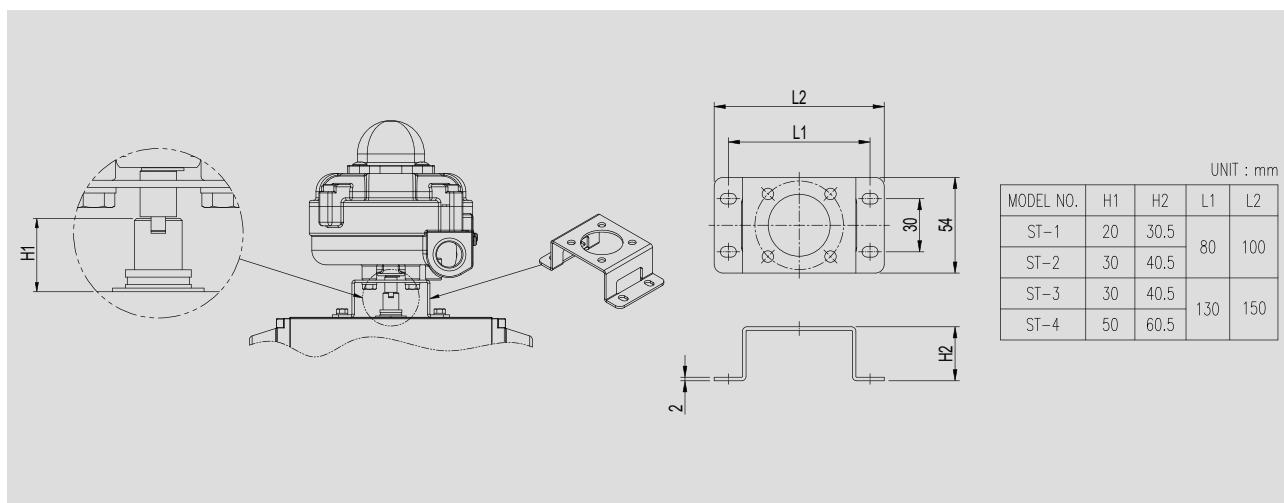
### TS600L NAMUR type bracket



### TS800L / TS900L / TS700L NAMUR type bracket



### TS400 / TS410 / TS415 / TS500R / TS510R / TS515R bracket



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