

ER3000 Kits

ER3P-XXXXXXXXXX
ER3B-XXXXXXXXXX



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ER3000 Kit

1 Introduction

This manual is valid only for ER3000 Kits I & II of the type ER3P and ER3B. The instructions for individual components must also be considered and are either attached in the appendix or supplied separately.

These instructions are important for all personnel who install, operate and maintain this equipment. It is assumed only qualified personnel with knowledge of the general safety rules and handling procedures of pressurized fluids and pressure equipment will perform this work. Ensure the availability of this manual to these personnel.

2 Safety Instructions

WARNING! Do not attempt to select, install, use or maintain this product until you have read and fully understood the TESCO Safety, Installation & Operation Precautions.

3 Product Description

The ER3000 Kits are designed to ease the procurement, setup and installation of the basic equipment needed for the most common pressure reducing and back pressure control applications. All the necessary components are supplied in one kit to save the user time and the inconvenience of not having all the accessories and interconnections needed to get the system up and running.

The heart of the kit is the ER3000, a unique and flexible electropneumatic closed loop PID controller. The pneumatic output of the ER3000 loads the dome or air-actuator of a mechanical regulator. The pressure at the control port of the mechanical regulator is measured by a transducer and fed back to the ER3000, which instantly compares the feedback to the set point and makes the necessary adjustments.

Kit Benefits:

Very high pressure stability

- pressure is independent of the flow (eliminates droop)
- pressure is independent of the input pressure (eliminates decaying inlet effect)

Automation

- pressure can be controlled by a signal from a PC or PLC
- easy integration into automated test cycles

Data Acquisition

- Pressure data can be transferred to the computer without additional hardware
- Windows Tune program includes a data acquisition routine

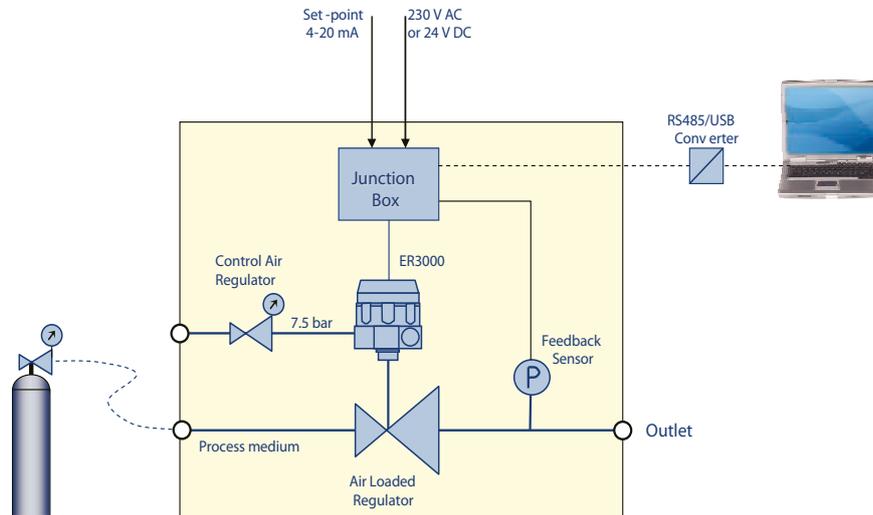
Kit Level of Integration

The kits are available in two levels of integration:

- **Kit I:**
Individual components selected to meet the application's pressure control requirements. The ER3000 is pre-configured with typical PID parameters established for the selected regulator. Installation and set-up of the equipment is the responsibility of the customer.
- **Kit II:**
Components of Kit I mounted on a back-plane and professionally plumbed together. Version with a sturdy, industrial enclosure also available. All electrical connections are made via junction box. The system is factory leak and performance tested and the ER3000 PID parameters are pre-set for this system.

Typical Pressure Reducing Application

With both kits, the customer has a choice of the most versatile mechanical regulators to cover a wide range of applications, both pressure reducing and back pressure, with a selection of the most common sealing materials.



The set point can be either an analog 4 - 20 mA or 1 - 5 volt signal or an RS485 serial signal from a computer. A converter to change the signal to RS485 from RS232 or USB is available with the kit. The PID parameters can be fine tuned using the supplied Tescom software loaded on the PC. In the case of an analog set point, the PC connection is needed only once for optimizing the PID parameters.

Regulator families

Pressure Reducing Regulators	
26-2000	High pressure regulator to control various output ranges up to 10,000 psig/690 bar, segregated captured vent. Available in SST and brass with a wide selection of seat and O-Ring materials
DK	Highly accurate and sensitive regulator with captured vent for low pressure (90 psig/6 bar) or mid range applications (600 psig/40 bar) requiring significant flow capabilities. Available in SST and brass.
44-5200	Piston sensed, venting regulator for mid-pressure range, low flow applications (600 psig/40 bar). Available in SST and brass.
Flow booster	Low pressure (90 psig/6 bar), high flow diaphragm regulator for air or nitrogen service. Zinc body.
Back Pressure Regulators	
26-1700	High pressure regulator to control various back-pressure ranges up to 10,000 psig/690 bar. Available in SST only with a wide selection of seat and O-Ring materials
54-2100	High pressure regulator to control various back-pressure ranges up to 10,000 psig/690 bar. Specially designed for hydraulic applications (metal seat), available in SST only.

ER3000 Kit

Accessories:

The Kits are shipped with all the accessories needed for easy installation:

- 4 – 20 mA Feedback Transducer with 1/4" NPT port
- Pressure reducing regulator with gage to supply air to the ER3000.
- Set of commonly used assembly items:
 - 8/32 UNC Mounting screws
 - ER vent port muffler
 - T-piece for transducer
 - NPT connector for ER3000 to air loader
 - NPT plug and cable strain relief
- ER3000 cable
- Transducer cable
- Optional junction box with power supply for easy connection of the ER3000, transducer and setpoint source
- Converter options of USB or RS232.

4 Technical Data

Dash Code	Regulator Series	Transducer pressure range psig/bar	Max. Input Pressure psi/bar	Flow Coefficients	Body Material	Temperature °F (°C)	Venting	Weight approx. lbs. (kg)
ER3P-X Pressure Reducing Regulators								
A	Flow Booster	0 - 100/ 0 - 6	300/20	Cv: 1.5	Zinc	39 to 118 (+4 to +48)	yes	1.6 (0.75)
B	Flow Booster	0 - 100/ 0 - 6		Cv: 2.5	Zinc	39 to 118 (+4 to +48)	yes	1.6 (0.75)
C	DK, dome loaded	0 - 100/ 0 - 6	1000/70	Cv: 0.35	Brass	-4 to 163 (-20 to +73)	yes captured	3.9 (1.8)
D	DK, air loaded	0 - 100/ 0 - 6		Cv: 0.35	Brass	-4 to 163 (-20 to +73)	yes captured	6.2 (2.8)
E	44-5200	0 - 500/ 0 - 40	3500/240	Cv: 0.15	Brass SST	-13 to 199 (-25 to +93)	yes	4.4 (2.0)
F	26-2000	0 - 1000/ 0 - 100	Brass: 6000/414 SST: 10,000/690	Cv: 0.06	Brass SST	-13 to 199 (-25 to +93)	yes captured	7.7 (3.5)
G	26-2000	0 - 2000/ 0 - 160		Cv: 0.06	Brass SST	-13 to 199 (-25 to +93)	yes captured	7.7 (3.5)
H	26-2000	0 - 5000/ 0 - 400		Cv: 0.06	Brass SST	-13 to 199 (-25 to +93)	yes captured	7.7 (3.5)
J	26-2000	0 - 10,000/ 0 - 600		Cv: 0.06	Brass SST	-13 to 199 (-25 to +93)	yes captured	7.7 (3.5)

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Dash Code	Regulator Series	Transducer psig/bar	Max. Input Pressure psig/bar	Flow Coefficients	Body Material	Temperature °F (°C)	Venting	Weight approx. lbs. (kg)
ER3B-X Back Pressure Regulators								
A	26-2100	1450/100	10,000/690	Cv: 0.08	SST	-13 to 165 (-25 to +74)	NA	7 (3.2)
B	26-2100	2320/160		Cv: 0.08	SST	-13 to 165 (-25 to +74)	NA	7 (3.2)
C	26-2100	5800/400		Cv: 0.08	SST	-13 to 165 (-25 to +74)	NA	7 (3.2)
D	26-2100	8700/600		Cv: 0.08	SST	-13 to 165 (-25 to +74)	NA	7 (3.2)
F	26-1700	1450/100		Cv: 0.14	SST	-40 to 165 (-40 to +74)	NA	7 (3.2)
G	26-1700	2320/160		Cv: 0.10	SST	-40 to 165 (-40 to +74)	NA	7 (3.2)
H	26-1700	5800/400		Cv: 0.10	SST	-40 to 165 (-40 to +74)	NA	7 (3.2)
J	26-1700	8700/600		Cv: 0.10	SST	-40 to 165 (-40 to +74)	NA	7 (3.2)

Specifications

ER3000	
Power supply	24 V DC (22V to 28V) 180 mA Nominal
Supply Media	Clean, dry, inert gases or shop air
Supply Pressure	110 psig/7.5 bar nominal, maximum 120 psig/8.0 bar
Input signals	Set Point: 4-20 mA, 1-5 V or digitally RS485 Feedback: 4-20 mA, 1-5 V
Housing	NEMA 4X / IP64 weight 1 kg
	Please see ER3000 User Manual for additional specifications
All Regulators	See Individual Drawings for regulator specifications
Pressure Transducer	
Output Signal	4 - 20 mAmp, 1 - 5 V DC
Accuracy	0.25% or 0.1%
Connection	¼" NPT
Power Supply	24 V DC, connector: 175301-803A
Housing	NEMA4X / IP65, weight: 0.3 kg

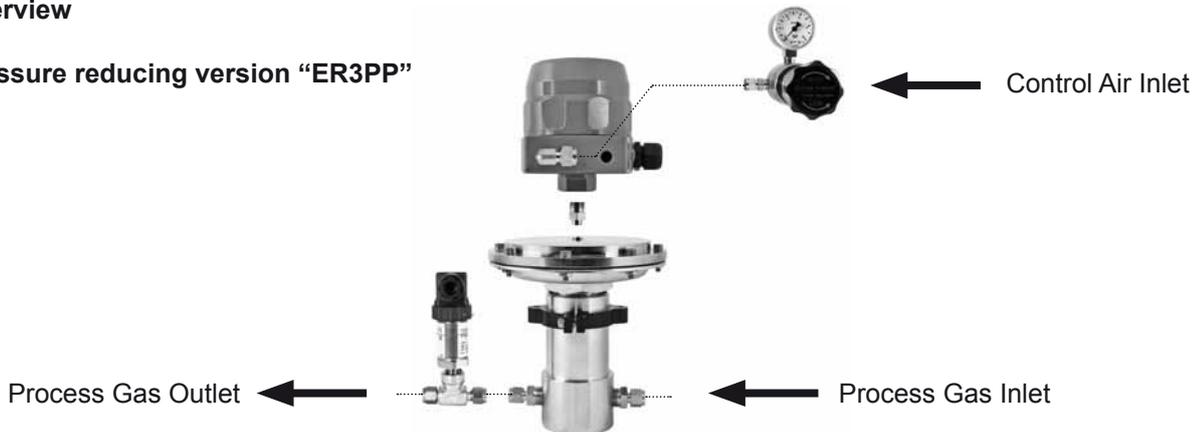
ER3000 Kit

5 Installation

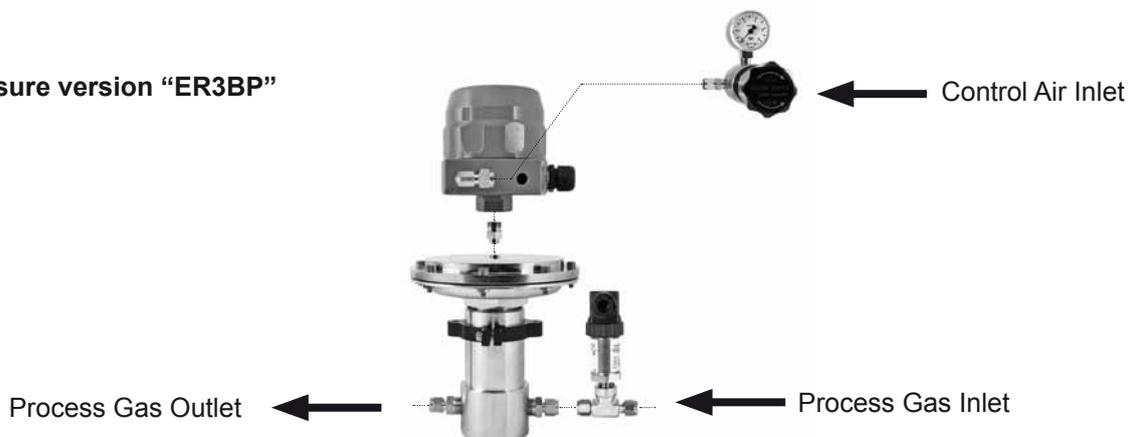
Warning: Installation of pressure components should only be performed by trained personnel. All national and international rules and regulations must be followed.

Overview

Pressure reducing version "ER3PP"



Back Pressure version "ER3BP"



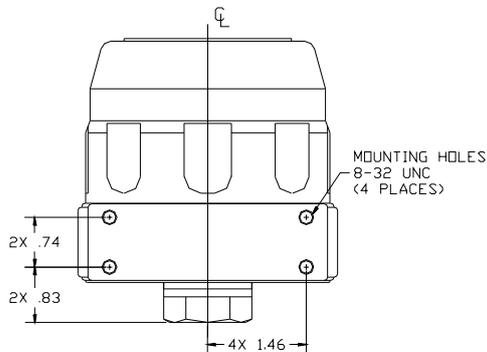
Mechanical Regulator

Install the mechanical pressure regulator as required by your application. Make sure that the tubing is thoroughly cleaned and that no chips or debris can reach the regulator valve. A 40 μm filter is recommended to be installed in the inlet path.

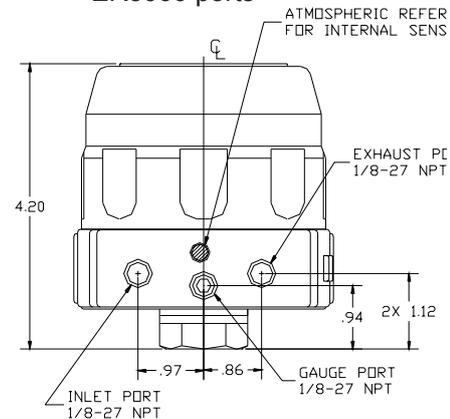
Inlet and outlet ports are laser marked on the body of the regulator.

ER3000

ER3000 mounting holes



ER3000 ports



The ER3000 can be installed either directly on top of the regulator's air loader using the supplied adapter or using tubing between ER3000 outlet and regulator dome/air loader.

- Length between the ER and the dome of the regulator should be as short as possible – as the length increases, so does the response time.
- Tubing between the ER and regulator must be able to handle up to 120 psig/8.5 bar.
- The ER can be oriented in any position.
- Connect ER3000 inlet port (NPT 1/8") to the air supply (direct shop air or control air regulator). Tubing must be able to handle up to 120 psig/8.5 bar.
- Installation of a 40 μ m filter is recommended on the inlet of the ER3000.
- The supplied muffler may be installed in the ER exhaust port (NPT 1/8") if desired.

Transducer

Connect transducer on the control port of the regulator using the supplied T-piece

The position of the transducer should be close to the regulator for a fast regulator response (no delay time). If the response time is not critical to the application, the transducer can be mounted close to the point of use.

Wiring

Wiring is simplified using the Junction Box, minimizing noise problems caused by long, messy cable lengths. For details see chapter on "Wiring". When installing, consider the following:

- Mount Junction Box close to the ER3000.
- Run the ER cable to the junction box, feeding it through the strain relief marked ER. Shorten cable as needed and connect to terminal strip.
- Run the transducer cable to the junction box, feeding it through the strain relief marked Transducer. Shorten cable as needed and connect to terminal strip.
- Connect power supply to the appropriate source.
- Analog control: Connect set point signal to the junction box.
Serial control: Connect RS485 cable to the junction box and the appropriate computer port.
See Section 6 for wiring details.

ER3000 Kit

System Leak Check

- Switch on the ER3000's power supply.
- Slowly apply ER supply pressure and then process pressure. Set the output pressure to a safe value.
- Check all fittings for tightness using leak test fluid. No bubbles should be seen.

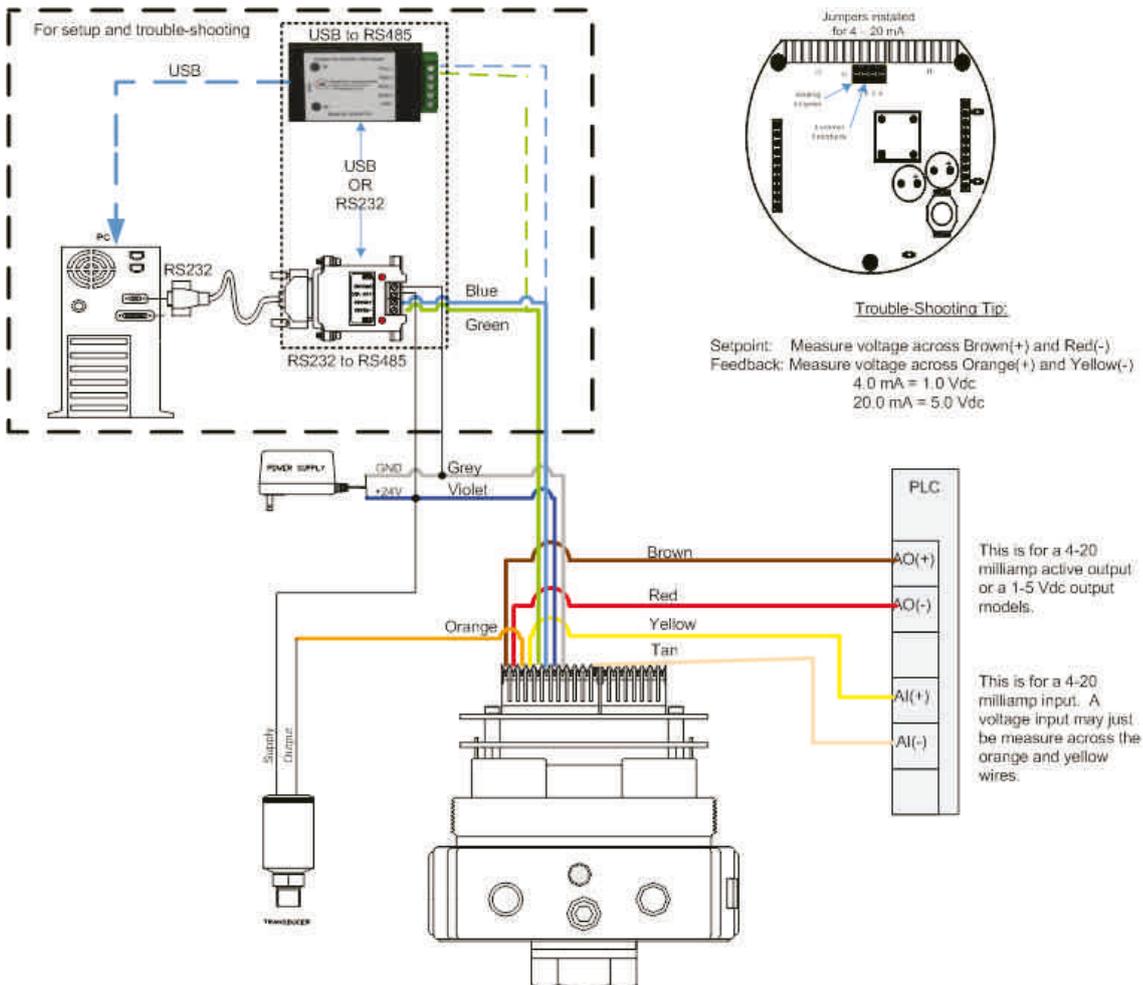
ER3000 Tuning

- In many applications, the standard factory settings will work satisfactorily, but to get the best performance, "tuning" of the control loop parameters may be required (see chapter 8 and ER3000 user manual for detailed information). When tuning, use conditions similar to the final application (i.e. similar pressures, flow, and medium). A tuning procedure is provided in the ER3000 User Manual. There is also "Help" available in the Tune program itself, accessed by going to the Help menu or by pressing 'F1'. See Section 8 for further tuning tips.

6 Wiring

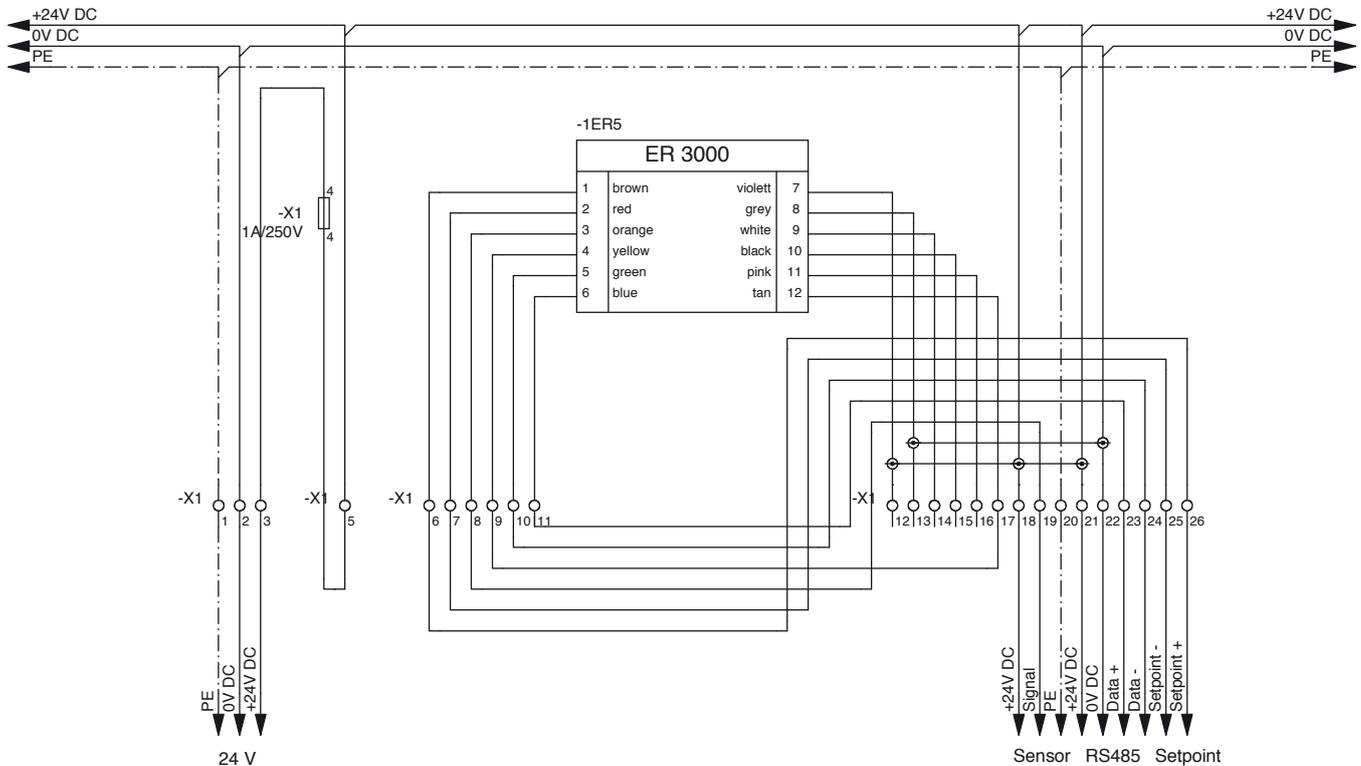
6.1 General Wiring

The following diagram shows the typical electrical connection of the ER3000. You will find additional information in the ER3000 User Manual.



ER3000 Kit

Junction Box DC



7 Maintenance

The maintenance and repair of pressure equipment must only be performed by trained experts!

Since every application exists under different conditions, the user is responsible for establishing a maintenance program based on their unique situation. Until enough data is collected to set up a schedule, we recommend a 6 - 12 month check of the following:

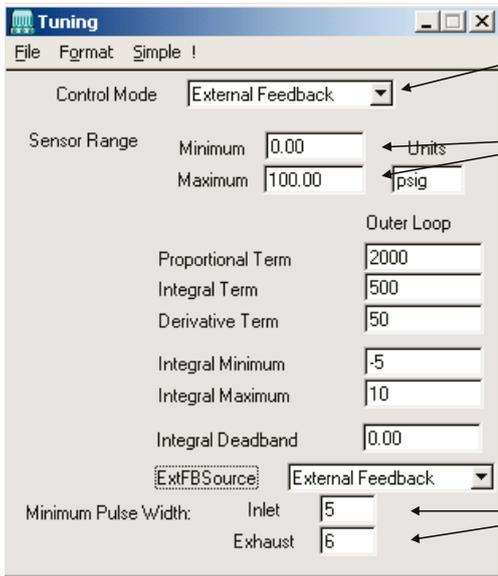
1. Visual check for damages, especial of the tubing, electrical components and cables
2. Functional check
3. Check for leaks

A periodic calibration of the feedback pressure transducer depends on the user's requirements. Tescom recommends a yearly calibration.

ER3000 Kit

8 Tuning ER3000

If additional tuning is desired, the ER3000 Windows Tune program is provided on the CD included in the ER kit package. See Sections 8.1 and 8.2 for general PID control information



Change for desired mode of operation.
"Internal or External"
Typically External mode is used.

For display only, should match the Feedback source.

Change for optimum performance.

Only used with "F" model ERs

Factory set: Do not change
See variable #26 and #27 for factory setting

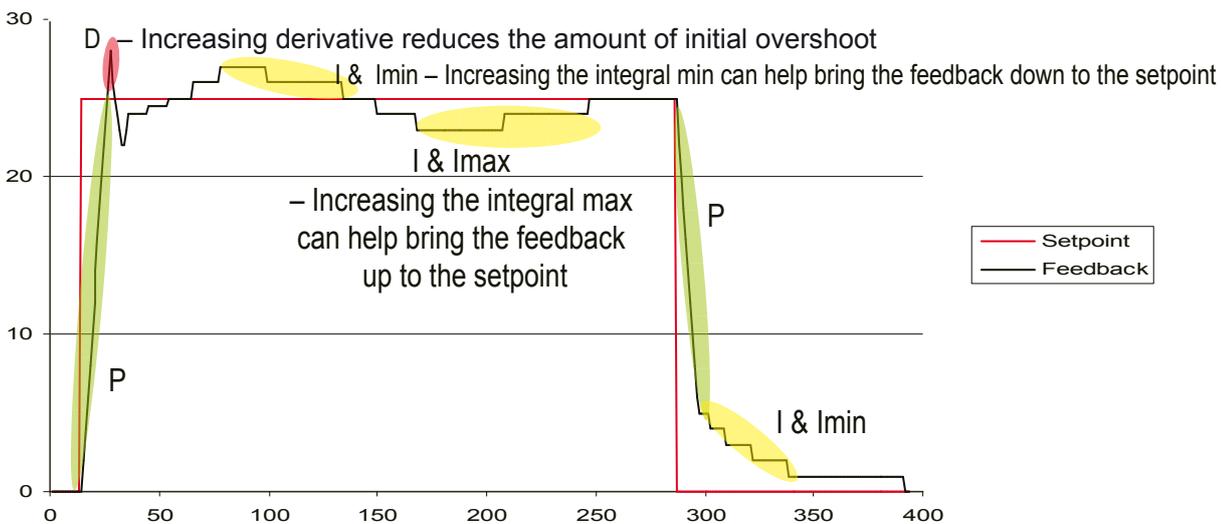
Proportional (P): Right foot on gas pedal, the harder you press the faster you go.

Derivative (D): Left foot on the brake pedal, the harder you press the faster you stop.

Integral (I): Back seat driver, the bigger the number the louder they are shouting for you to correct your driving.

Integral Min: Back seat driver, the more negative the number the longer they are shouting that you are beyond your setpoint. Correction will be down to the target.

Integral Max: Back seat driver, the bigger the number the longer they are shouting that you are not at your setpoint. Correction will be up to the target.



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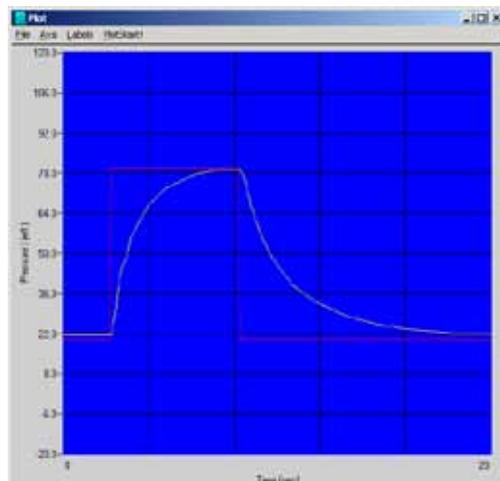
Instruction Manual

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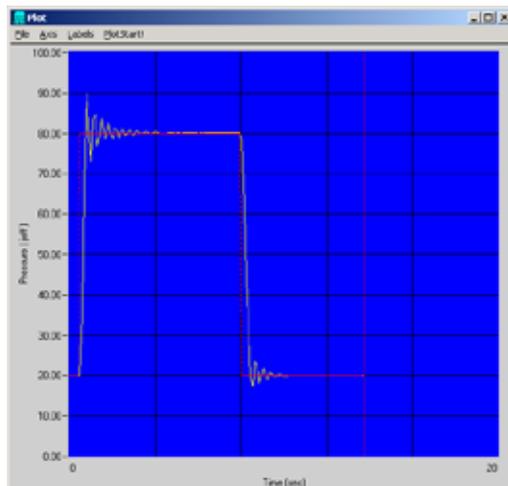
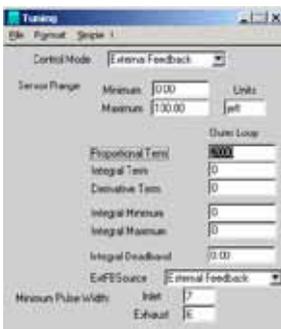
Rev. A

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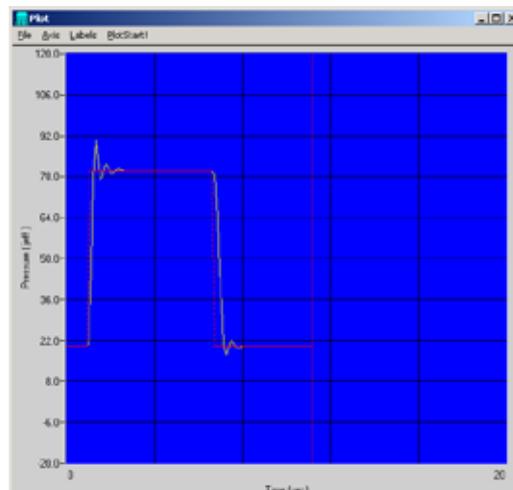
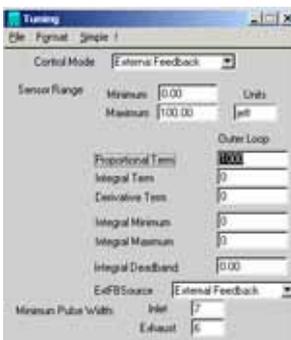
Typical tuning sequence: increase Proportional for faster response.
Typical Range: 500 to 3000



Too much Proportional will make unstable.

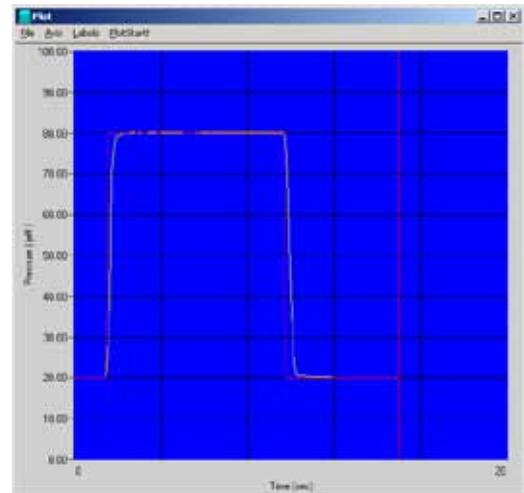
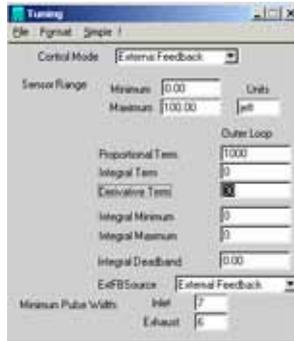


Optimal Proportional with little ringing.

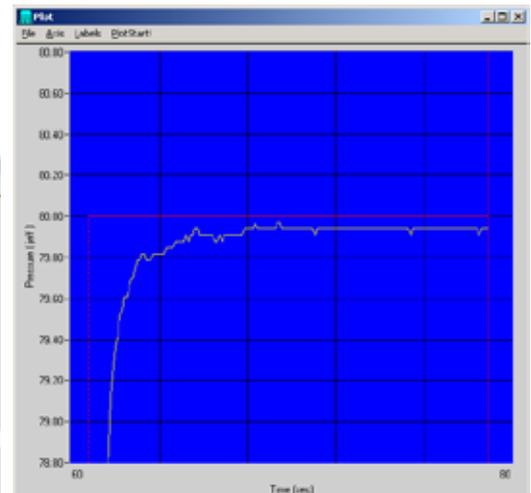
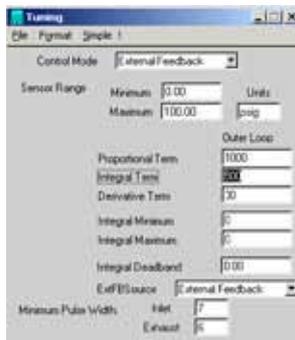


ER3000 Kit

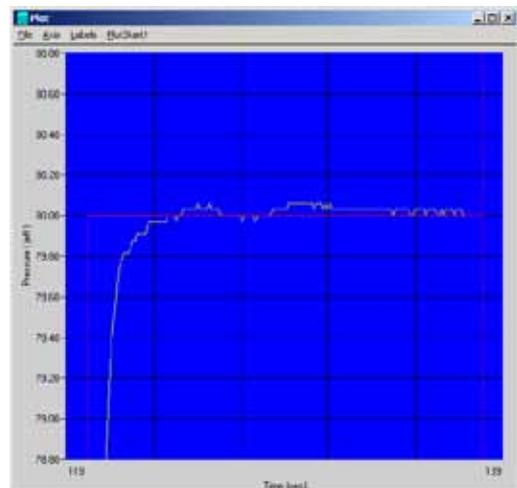
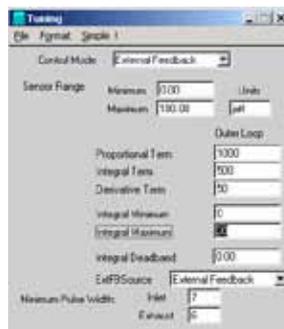
Increase Derivative to eliminate over-shoot.
Typical Range: 20 to 200



Zoom in to see accuracy.
Make Integral approximately 50% of proportional term.
Typical Range: 50% of P term down to zero

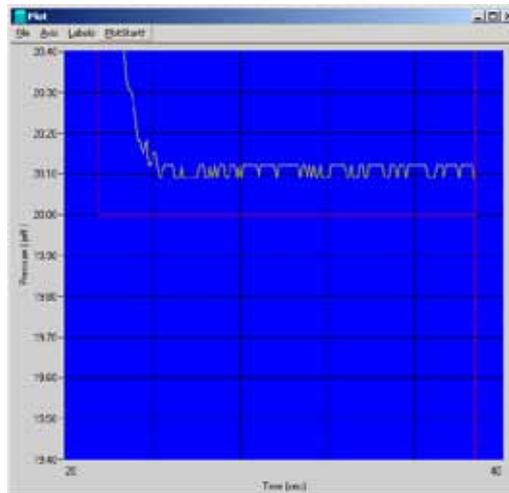


Increase Integral maximum to bring the feedback up.
Typical Range: 5 to 300
Has no effect if Integral term = 0



ER3000 Kit

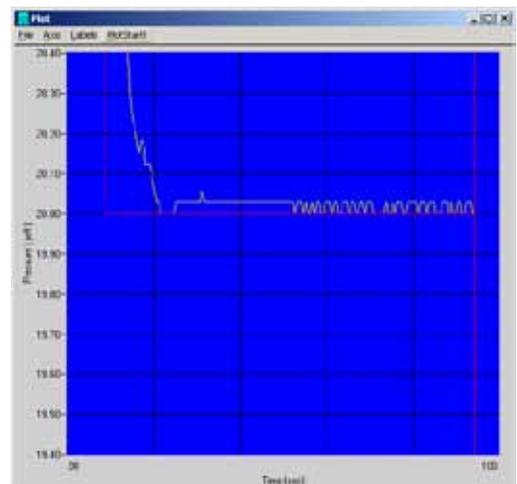
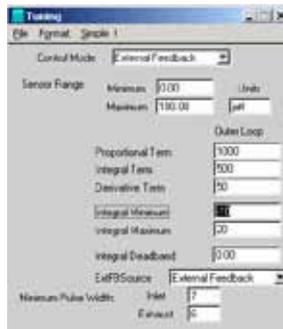
Zoom in on decreasing setpoint.



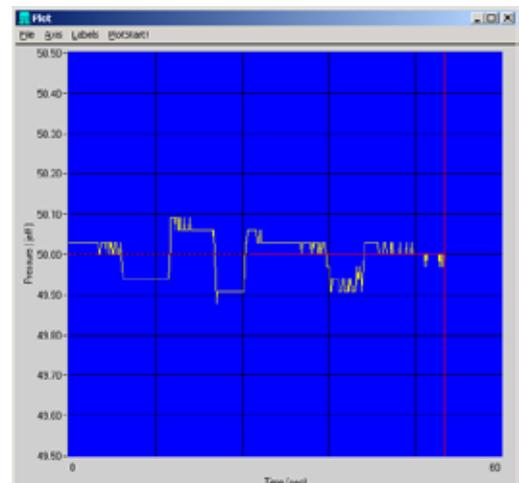
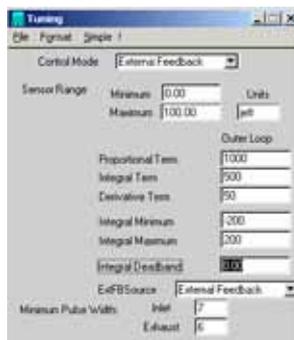
Make Integral Minimum more negative to bring the feedback down to setpoint.

Typical Range: -5 to -300

Has no effect if Integral term = 0

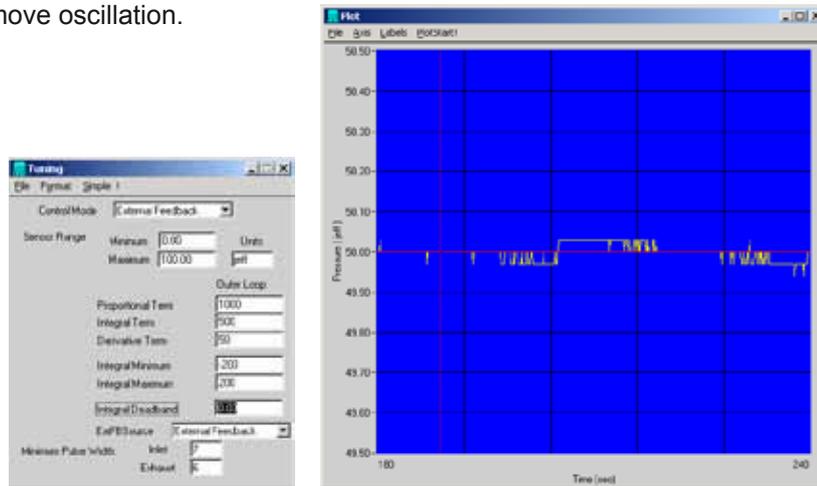


Too much integral may cause oscillations.



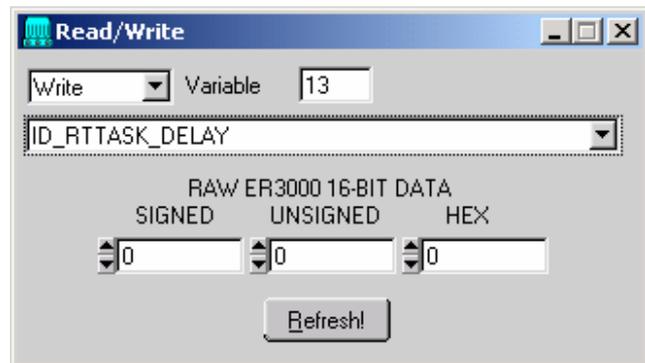
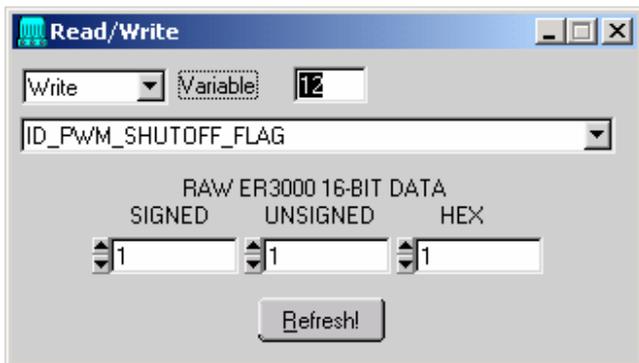
ER3000 Kit

Adding Integral Dead band may remove oscillation.
Typical Range: 0.03 to 0.5



Another way to remove oscillations:

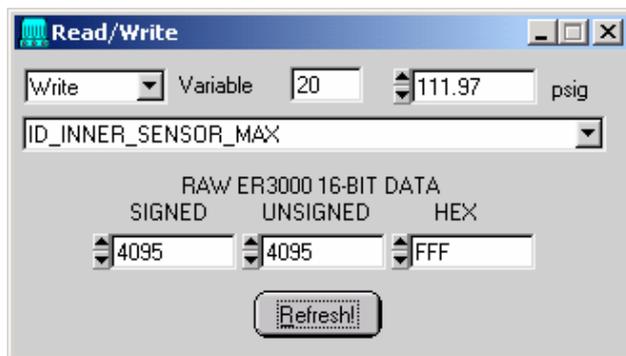
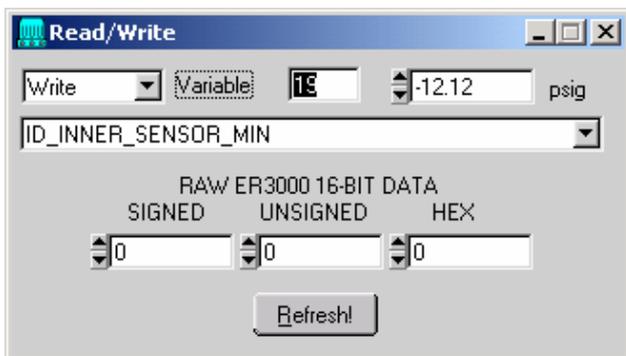
- Change Frequency Response of ER3000
- Change variable 12 to a "0".
- Increase variable 13 to delay in increments of 25 milliseconds. ("0"=25 ms, 1=25 ms, 2=50 ms....)



Firmware Version 716

Limit Internal Sensor:

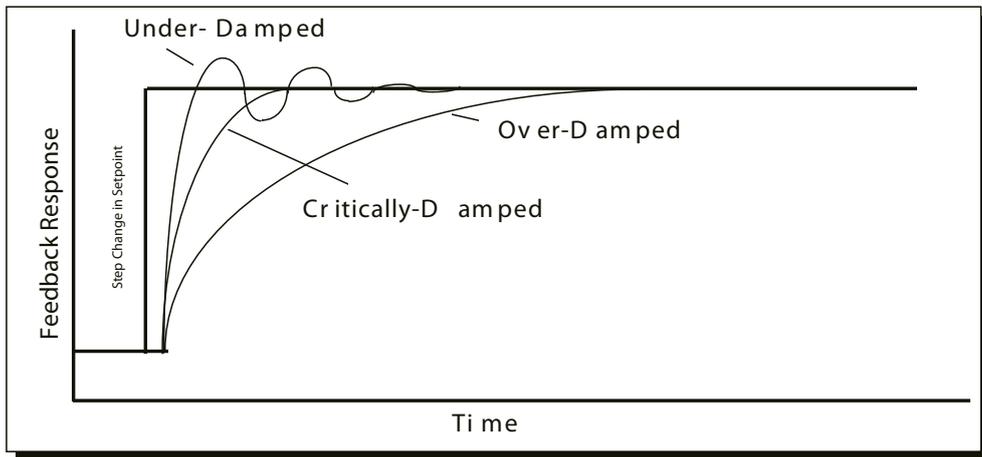
- Variable 20 limits maximum
- Variable 19 limits minimum



ER3000 Kit

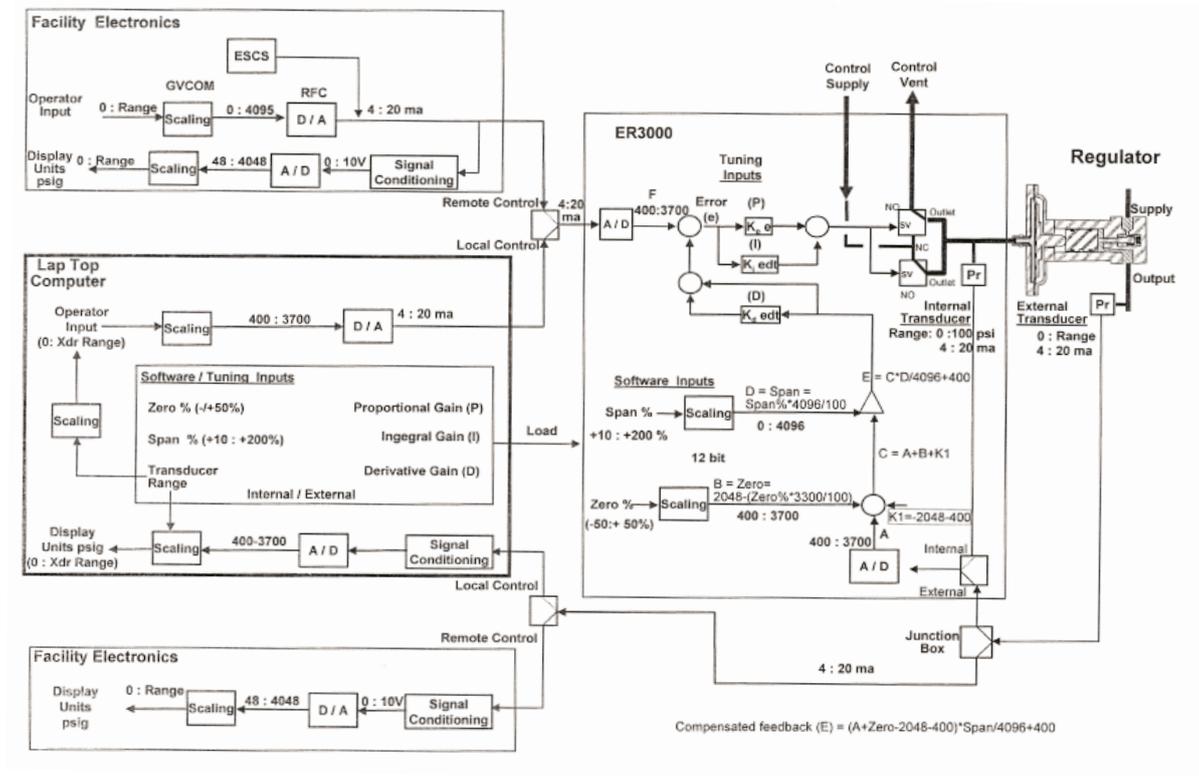
8.1 PID Control -System Response to a Step Change in Setpoint

- Optimal PID parameters result in a “Critically-Damped” response
- Not enough “gain” results in an “Over-Damped” response
- Too much “gain” results in an “Under-Damped” response



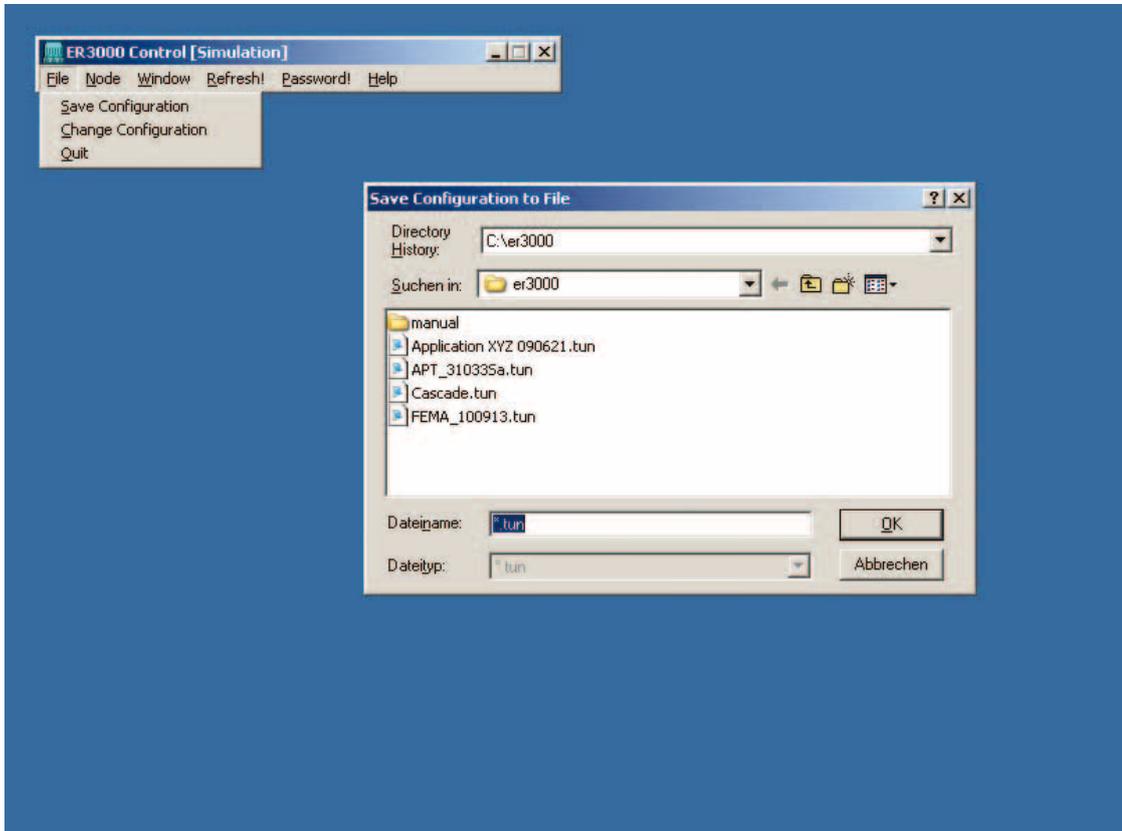
8.2 PID Control

Math Model

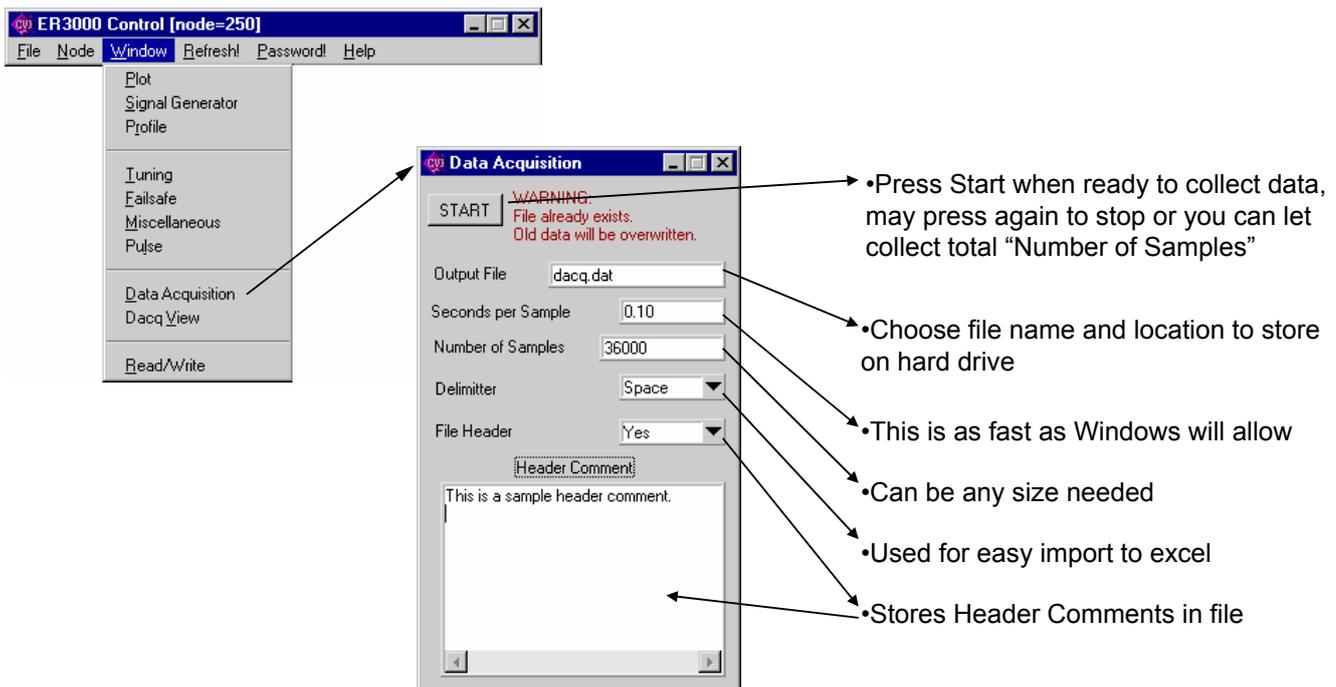


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8.3 Saving Data - PID Configuration



8.4 Data Acquisition



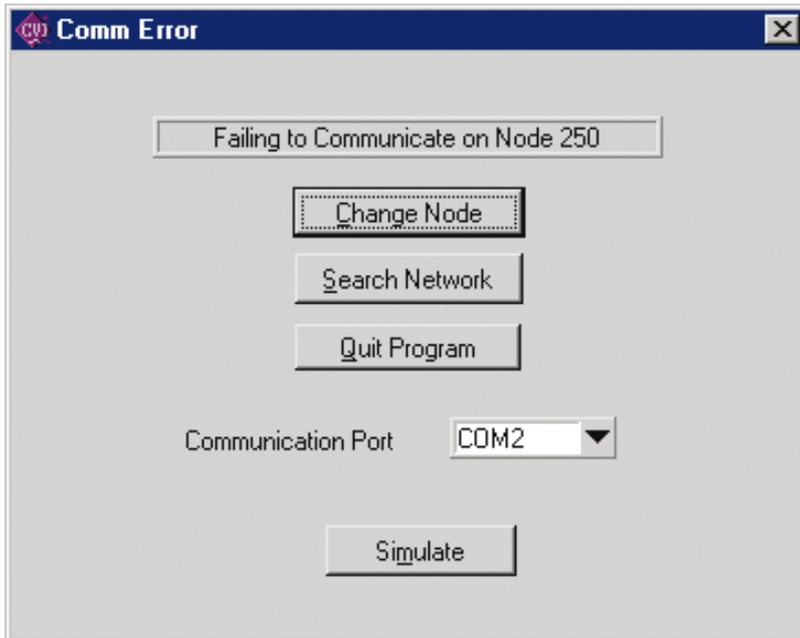
ER3000 Kit

9 ER 3000 Troubleshooting

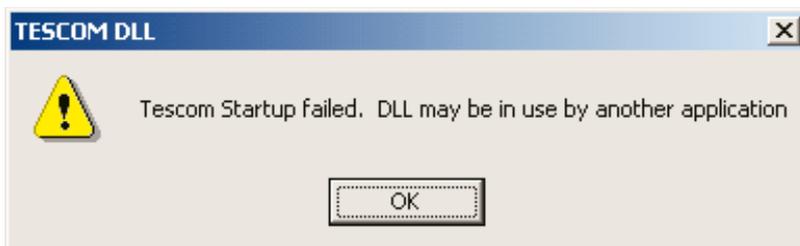
9.1 System Troubleshooting

Communications

Check LED's on RS485 converter and ER3000 circuit boards.



DLL in use error is related to com port access.
Try another Com port.



ER3000 Kit

Pressure

Read/write windows can be used to monitor a digital display of the system pressures.

Variable #1 is the analog setpoint.

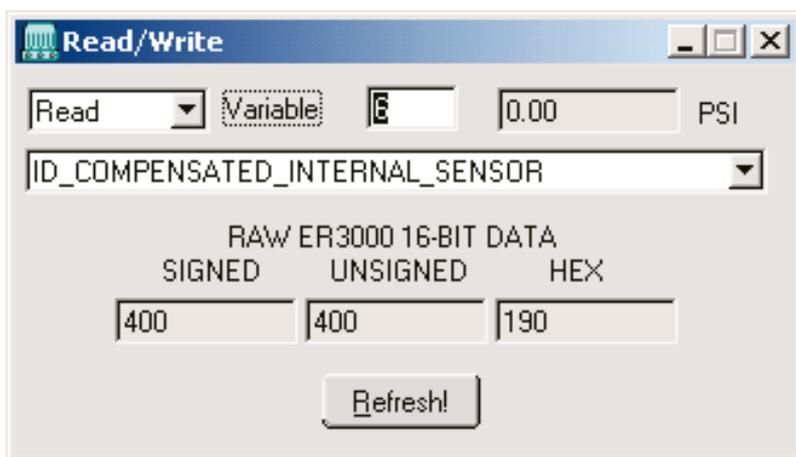
1 Vdc or 4 mA is equal to 400 counts. 5 Vdc or 20 mA is equal to 3700 counts.

Variable #5 is the external feedback.

1 Vdc or 4 mA is equal to 400 counts. 5 Vdc or 20 mA is equal to 3700 counts.

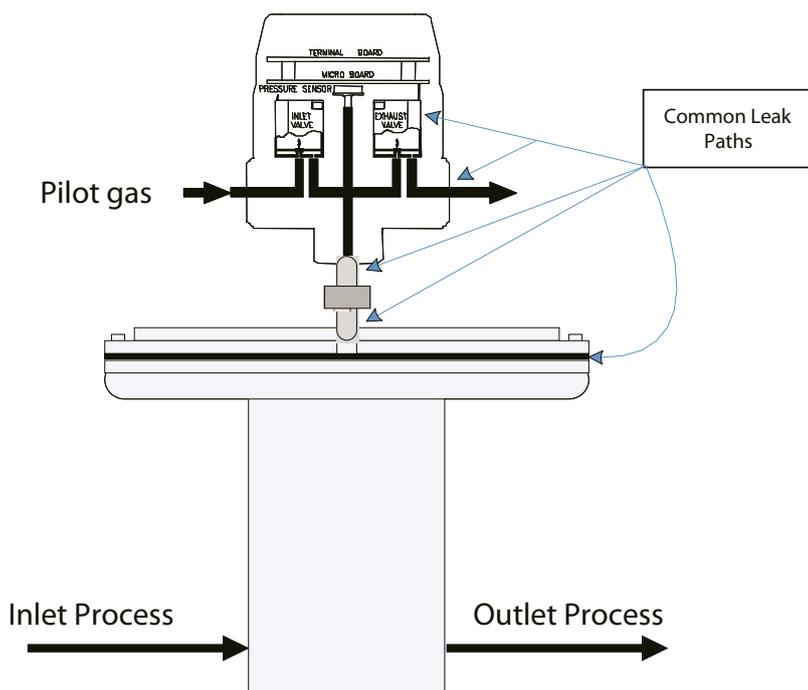
Variable #6 is the internal feedback.

400 counts is equal to 0 psi. 3700 counts is equal to 100 psi.



9.2 Leak Paths

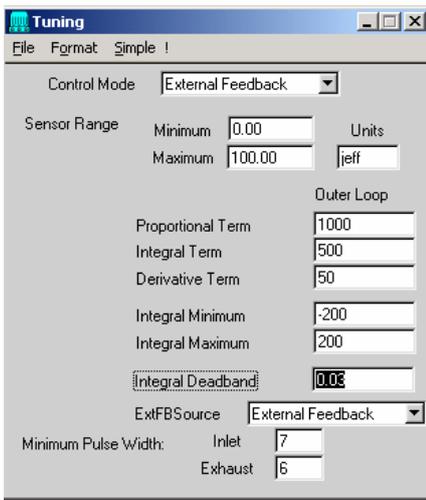
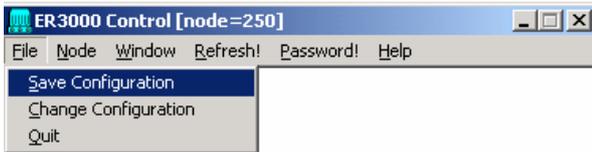
Pressure oscillations are often caused by leaks in the system. Common leak paths are shown below. Use the following leak check procedure to find and eliminate all leaks.



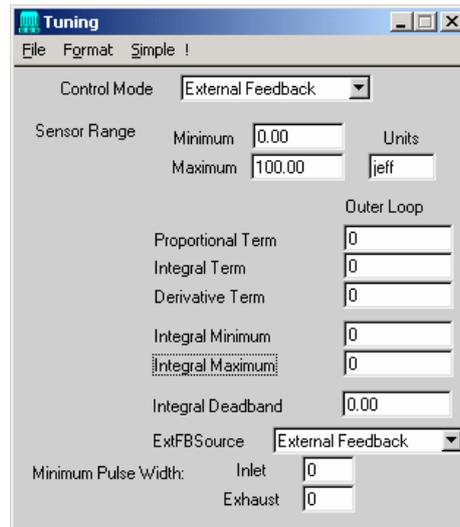
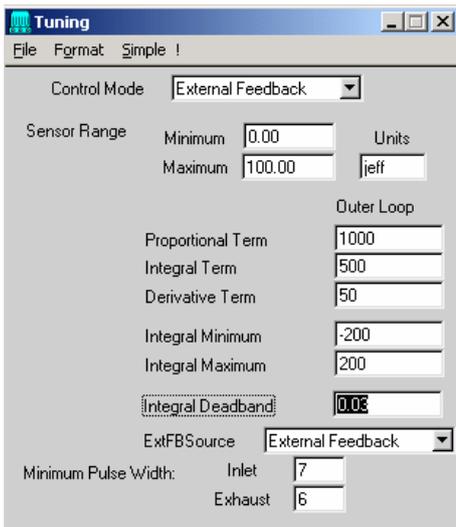
ER3000 Kit

Leak Check

Save current parameters

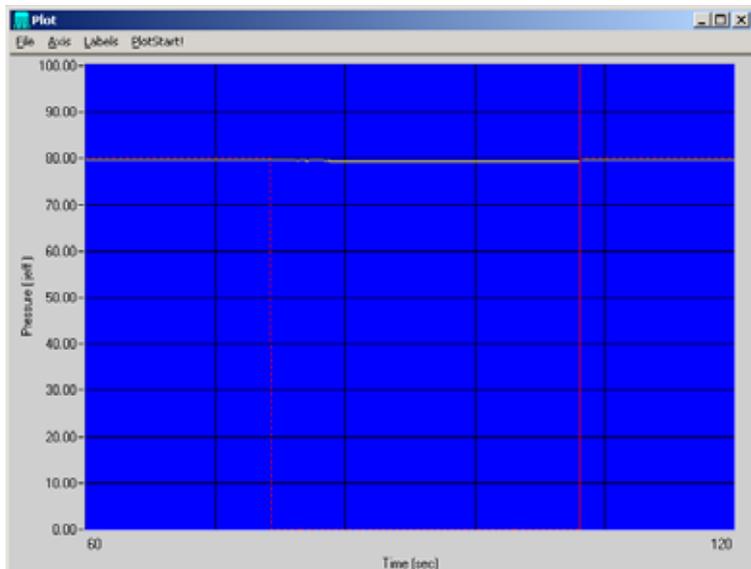


Change PID values to "0"



ER3000 Kit

Internal pressure should not decay more than 0.1 psig in 20 seconds.



The Read/Write window shows the following configuration and data:

- Read Variable: 8, Value: 79.45, Units: PSI
- Sensor ID: ID_COMPENSATED_INTERNAL_SENSOR
- RAW ER3000 16-BIT DATA:
 - SIGNED: 3022
 - UNSIGNED: 3022
 - HEX: BCE
- Refresh! button

Restore PID parameters

The ER3000 Control [node=250] window has a menu with the following options:

- Save Configuration
- Change Configuration
- Quit

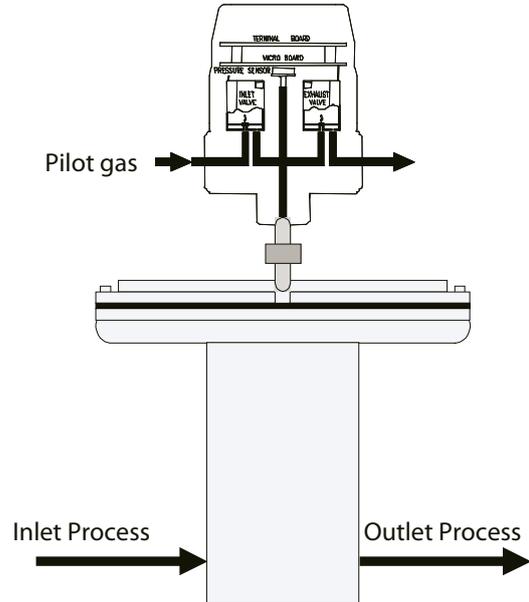
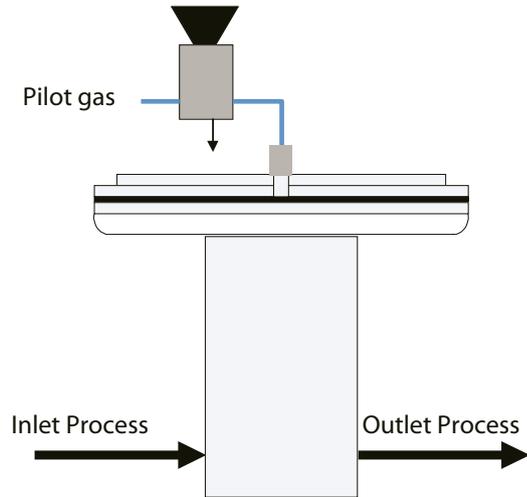
The Tuning window shows the following parameters for External Feedback mode:

- Control Mode: External Feedback
- Sensor Range:
 - Minimum: 0.00
 - Maximum: 100.00
 - Units: psf
- Outer Loop:
 - Proportional Term: 1000
 - Integral Term: 500
 - Derivative Term: 50
 - Integral Minimum: -200
 - Integral Maximum: 200
 - Integral Deadband: 0.00
- ExtFBSrc: External Feedback
- Minimum Pulse Width:
 - Inlet: 7
 - Exhaust: 6

9.3 Isolate Mechanical from electrical

To ensure that the regulator is working properly, test if using one of the methods shown below. With the ER3000 in internal feedback mode, both systems will perform the same.

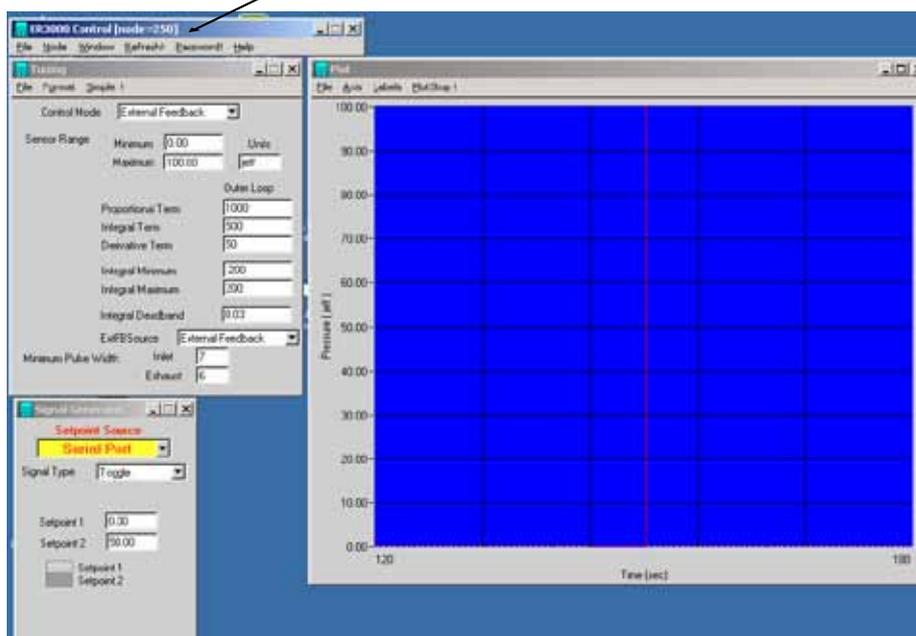
Hand loaded self venting regulator



9.4 Debug Window

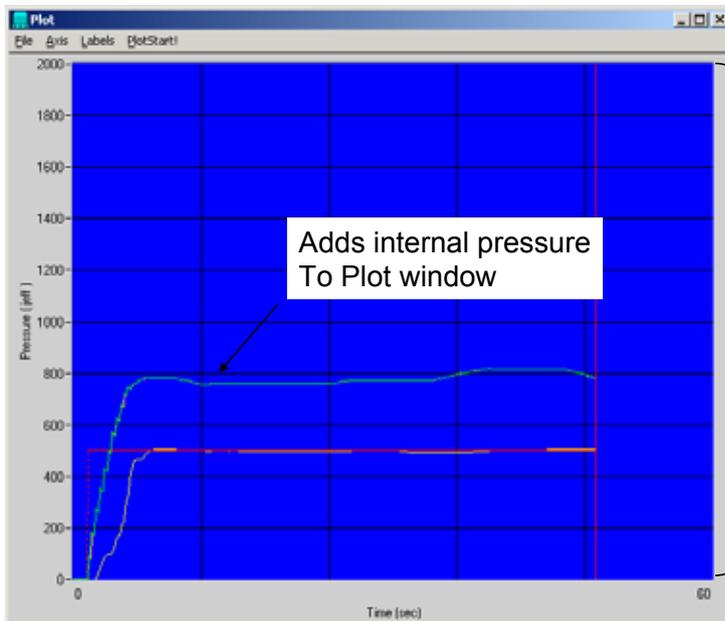
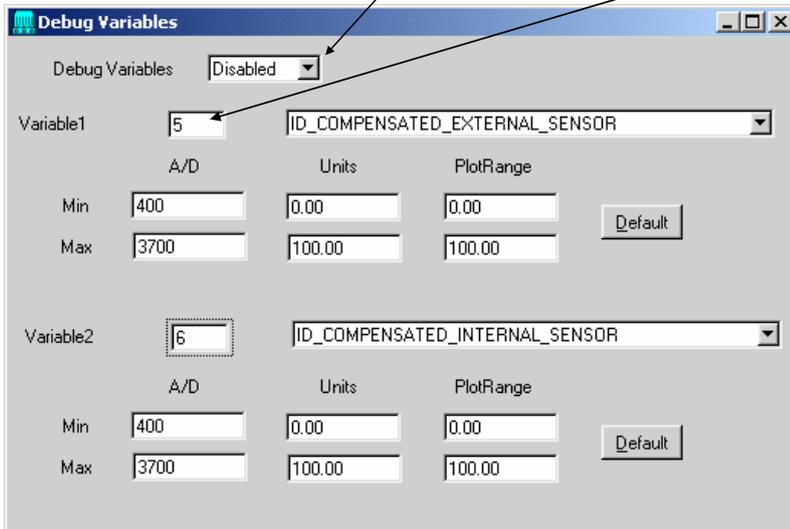
By enabling the debug variable, 2 extra parameters can be monitored on the plot screen. In addition, data on these 2 parameters will be collected when running the Windows Tune data acquisition routine.

With main menu active Press "F10"



Click to Enable

Change to variable "6"



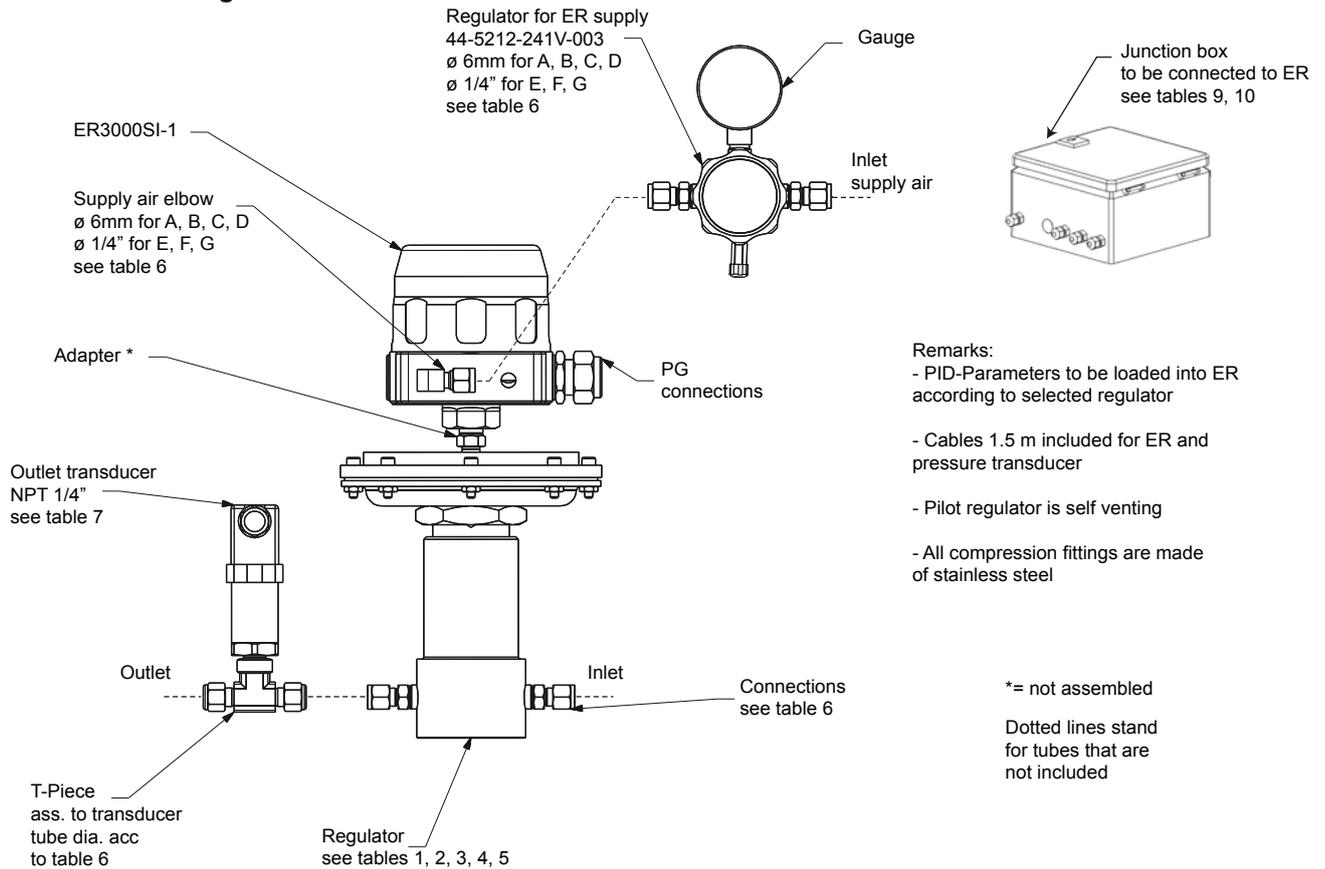
Adds internal pressure
To Plot window

Scale is always
0 psig to 100 psig
for internal pressure

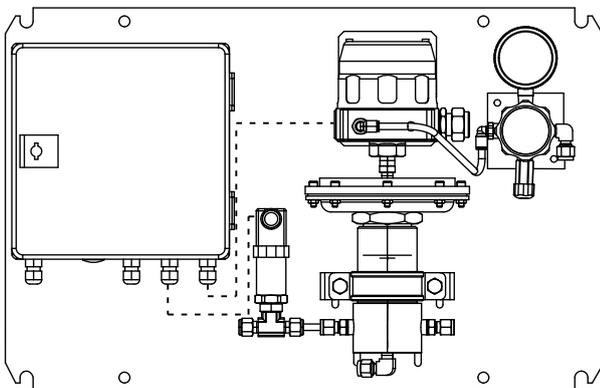
10 Drawings

The drawings in this manual are for reference only. For most up to date drawings please contact your local TESCOM representative.

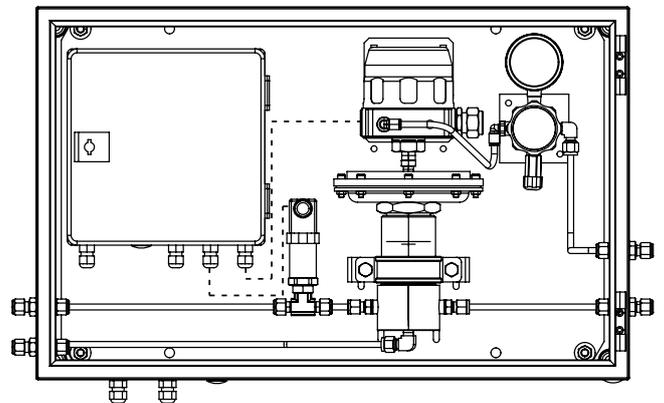
Pressure Reducing Version



*: parts are not assembled in Kit 1
Kit assembled on plate



Kit in assembled enclosure



ER3000 Kit

ER3P-E6F7TA21D2

TABLE 1	
DASH NO.	KITS CATEGORY
P	UNASSEMBLED PARTS
L	PARTS ASSEMBLED ON PLATE
E	PARTS IN ASSEMBLED ENCLOSURE

TABLE 2	
DASH NO.	BODY MATERIAL
1	BRASS
6	STAINLESS STEEL
Z	ZINC

TABLE 3	
DASH NO.	OUTLET PRESSURE RANGE
A	6 BAR Cv=1.5 FLOW BOOSTER
B	6 BAR Cv=2.2 FLOW BOOSTER
C	6 BAR Cv=0.35 DK DOME LOAD
D	40 BAR Cv=0.35 DK AIR LOAD
E	35 BAR Cv=0.15 44-52VA MOD027
F	100 BAR Cv=0.06 26-20 AIR LOAD
G	160 BAR Cv=0.06 26-20 AIR LOAD
H	400 BAR Cv=0.06 26-20 AIR LOAD
J	600 BAR Cv=0.06 26-20 AIR LOAD

TABLE 4	
DASH NO.	SEAL MATERIAL
0	CTFE
7	VESPEL SP1
8	PEEK
B	BUNA-N

TABLE 5	
DASH NO.	O-RING MATERIAL
D	BUNA (NBR)
T	VITON (FKM)
U	URETHANE (PUR)
V	KALREZ (FFKM)
Z	EP (EPDM)

TABLE 10	
DASH NO.	JUNCTION BOX COMMUNICATION
2	RS232-RS485 CONVERTER
U	USB-RS485 CONVERTER
0	NONE

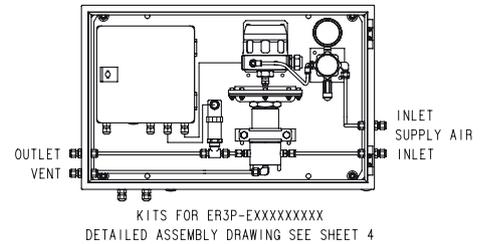
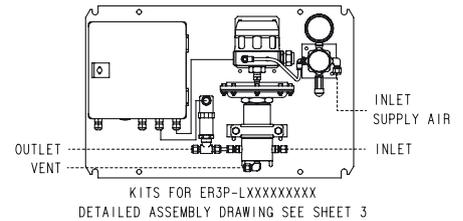
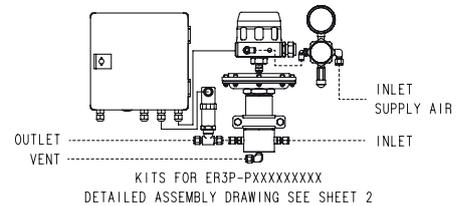
TABLE 9	
DASH NO.	JUNCTION BOX SUPPLY VOLTAGE
0	BOX NOT INCLUDED
A	AC (100-230V)
D	DC (24V)

TABLE 8	
DASH NO.	REGULATOR FOR ER SUPPLY (7 BAR)
0	NONE
1	44-5212-241V-002

TABLE 7	
DASH NO.	OUTLET TRANSDUCER ACC. TO D51656
1	P10 (0.1% ACCURACY)
2	S10 (0.25% ACCURACY)
9	NONE

TABLE 6	
DASH NO.	PORTING/FITTING SIZE FOR INLET AND OUTLET, TUBING SIZE
A	∅ 6mm
B	∅ 8mm
C	∅ 10mm
D	∅ 12mm
E	∅ 1/4"
F	∅ 3/8"
G	∅ 1/2"

KITS FOR ER3000 PRESSURE REDUCING



Available Combinations (SELECTION CHART)

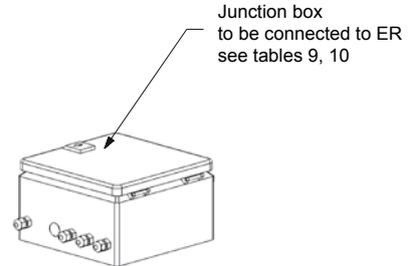
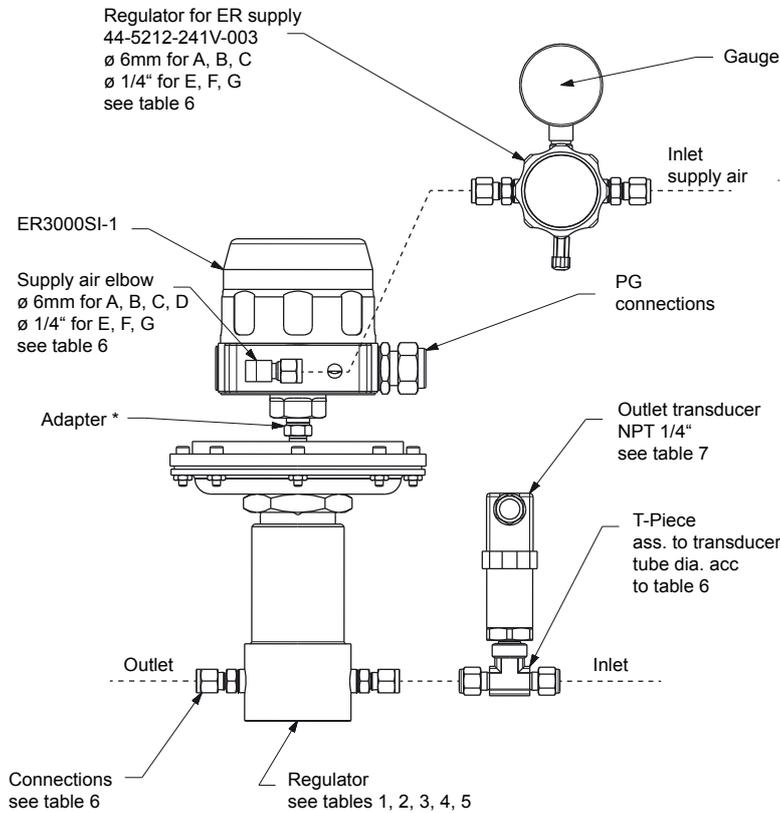
REGULATOR SERIES	REGULATOR			BODY			SEAT			O-RING					INLET & OUTLET COMPRESSION FITTINGS								
	PRESSURE RANGE PSIG / BAR	MAX. INLET PRESSURE PSIG / BAR	Cv	1 - Brass	6 - SST	Z - Zinc	0 - CTFE	7 - Vespe ^l	8 - PEEK	B - Buna-N [®]	D - Buna-N [®]	T - Viton [®]	U - Urethane	V - Kalrez [®]	Z - EP	A - ∅6 mm	B - ∅8 mm	C - ∅10 mm	D - ∅12 mm	E - 1/4"	F - 3/8"	G - 1/2"	
A: Flow Booster	87 / 6	300 / 20	1.5	n	n	+	n	n	n	+	+	n	n	n	n	+	+	+	+	+	+	+	+
B: Flow Booster	87 / 6	300 / 20	2.5	n	n	+	n	n	n	+	+	n	n	n	n	n	n	+	+	n	+	+	+
C: DK Dome Loaded	87 / 6	1000 / 7	0.35	+	+	n	+	n	+	n	+	+	n	n	+	+	+	+	+	+	+	+	+
D: DK Air Loaded	580 / 40	1000 / 7	0.35	+	+	n	+	n	+	n	+	+	n	n	+	+	+	+	+	+	+	+	+
E: 44-52V Air Loaded	580 / 40	3500 / 240	0.15	+	+	n	n	+	n	n	n	+	n	n	n	+	+	n	n	+	n	n	n
F: 26-20 Air Loaded	1450 / 100	15000 / 1035	0.06	+	+	n	n	+	+	n	+	+	+	+	+	+	+	+	+	+	+	+	+
G: 26-20 Air Loaded	2320 / 160	15000 / 1035	0.06	+	+	n	n	+	+	n	+	+	+	+	+	+	+	+	+	+	+	+	+
H: 26-20 Air Loaded	5800 / 400	15000 / 1035	0.06	+	+	n	n	+	+	n	+	+	+	+	+	+	+	+	+	+	+	+	+
J: 26-20 Air Loaded	8700 / 600	15000 / 1035	0.06	+	+	n	n	+	+	n	+	+	+	+	+	+	+	+	+	+	+	+	+

+ available

n not available

ER3000 Kit

Back Pressure Version



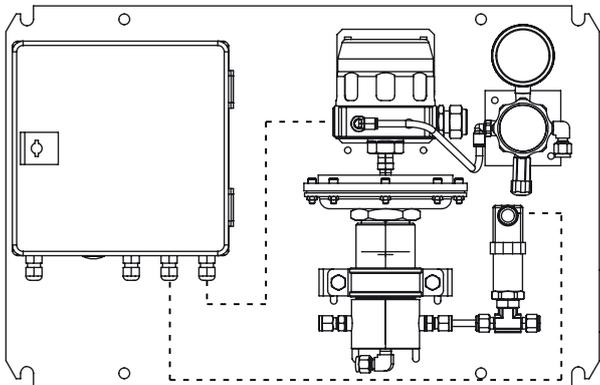
- Remarks:
- PID-Parameters to be loaded into ER according to selected regulator
 - Cables 1.5 m included for ER and pressure transducer
 - Pilot regulator is self venting
 - All compression fittings are made of stainless steel

*= not assembled

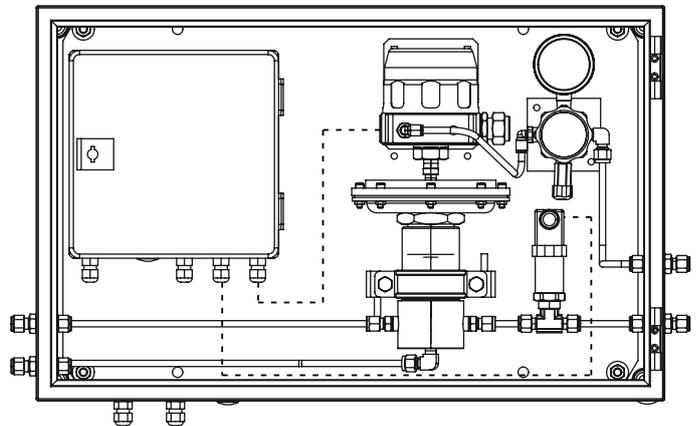
Dotted lines stand for tubes that are not included

*: parts are not assembled in Kit 1

Kit assembled on plate



Kit in assembled enclosure



ER3B-E6F0DA21D2

TABLE 1	
DASH NO.	KITS CATEGORY
P	UNASSEMBLED PARTS
L	PARTS ASSEMBLED ON PLATE
E	PARTS IN ASSEMBLED ENCLOSURE

TABLE 2	
DASH NO.	BODY MATERIAL
6	STAINLESS STEEL

TABLE 3	
DASH NO.	OUTLET PRESSURE RANGE
A	100BAR Cv=0.08 54-21 AIR LOAD
B	160BAR Cv=0.08 54-21 AIR LOAD
C	400BAR Cv=0.08 54-21 AIR LOAD
D	600BAR Cv=0.08 54-21 AIR LOAD
F	100 BAR Cv=0.14 26-17 AIR LOAD
G	160 BAR Cv=0.1 26-17 AIR LOAD
H	400 BAR Cv=0.1 26-17 AIR LOAD
J	600 BAR Cv=0.1 26-17 AIR LOAD

TABLE 4	
DASH NO.	SEAL MATERIAL
0	CTFE
3	TEFLON (PTFE)
7	VESPEL SP1

TABLE 5	
DASH NO.	O-RING MATERIAL
D	BUNA (NBR)
T	VITON (FKM)
U	URETHANE (PUR)
V	KALREZ (FFKM)
Z	EP (EPDM)

TABLE 10	
DASH NO.	JUNCTION BOX COMMUNICATION
2	RS232-RS485 CONVERTER
U	USB-RS485 CONVERTER
0	NONE

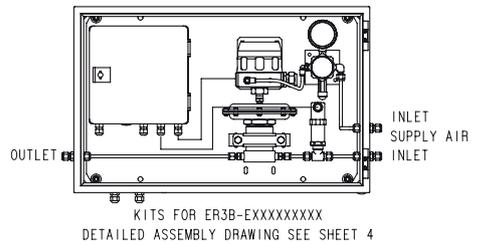
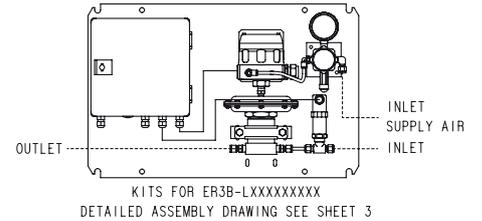
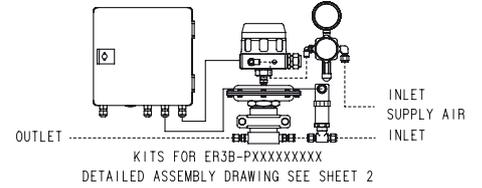
TABLE 9	
DASH NO.	JUNCTION BOX SUPPLY VOLTAGE
0	BOX NOT INCLUDED
A	AC (100-230V)
D	DC (24V)

TABLE 8	
DASH NO.	REGULATOR FOR ER SUPPLY (7 BAR)
0	NONE
1	44-5212-241V-002

TABLE 7	
DASH NO.	OUTLET TRANSDUCER ACC. TO D51656
1	P10 (0.1% ACCURACY)
2	S10 (0.25% ACCURACY)
9	NONE

TABLE 6	
DASH NO.	PORTING/FITTING SIZE FOR INLET AND OUTLET, TUBING SIZE
A	Ø 6mm
B	Ø 8mm
C	Ø 10mm
D	Ø 12mm
E	Ø 1/4"
F	Ø 3/8"
G	Ø 1/2"

KITS FOR ER3000 BACK PRESSURE



Available Combinations (SELECTION CHART)

REGULATOR SERIES	REGULATOR			BODY 6 - SST	SEAT			O-RING					INLET & OUTLET COMPRESSION FITTINGS					
	PRESSURE RANGE PSIG / BAR	MAX. INLET PRESSURE PSIG / BAR	Cv		0 - CTFE	3 - Teflon®	7 - Vespel®	D - Buna-N®	T - Viton®	U - Urethane	V - Kalrez®	Z - EP	A - ø6 mm	B - ø8 mm	C - ø10 mm	D - ø12 mm	E - 1/4"	F - 3/8"
A: 54-2100 Air Loaded	1450 / 100	1000 / 690	0.08	+	n	n	+	+	+	+	+	+	+	+	+	+	+	+
B: 54-2100 Air Loaded	2320 / 160	1000 / 690	0.08	+	n	n	+	+	+	+	+	+	+	+	+	+	+	+
C: 54-2100 Air Loaded	5800 / 400	1000 / 690	0.08	+	n	n	+	+	+	+	+	+	+	+	+	+	+	+
D: 54-2100 Air Loaded	8700 / 600	1000 / 690	0.08	+	n	n	+	+	+	+	+	+	+	+	+	+	+	+
F: 26-1700 Air Loaded	1450 / 100	1000 / 690	0.14	+	n	+	+	+	+	n	n	n	+	+	+	+	+	+
G: 26-1700 Air Loaded	2320 / 160	1000 / 690	0.1	+	+	n	+	+	+	n	n	n	+	+	+	+	+	+
H: 26-1700 Air Loaded	5800 / 400	1000 / 690	0.1	+	+	n	+	+	+	n	n	n	+	+	+	+	+	+
J: 26-1700 Air Loaded	8700 / 600	1000 / 690	0.1	+	+	n	+	+	+	n	n	n	+	+	+	+	+	+

+ available
n not available

PRELIMINARY

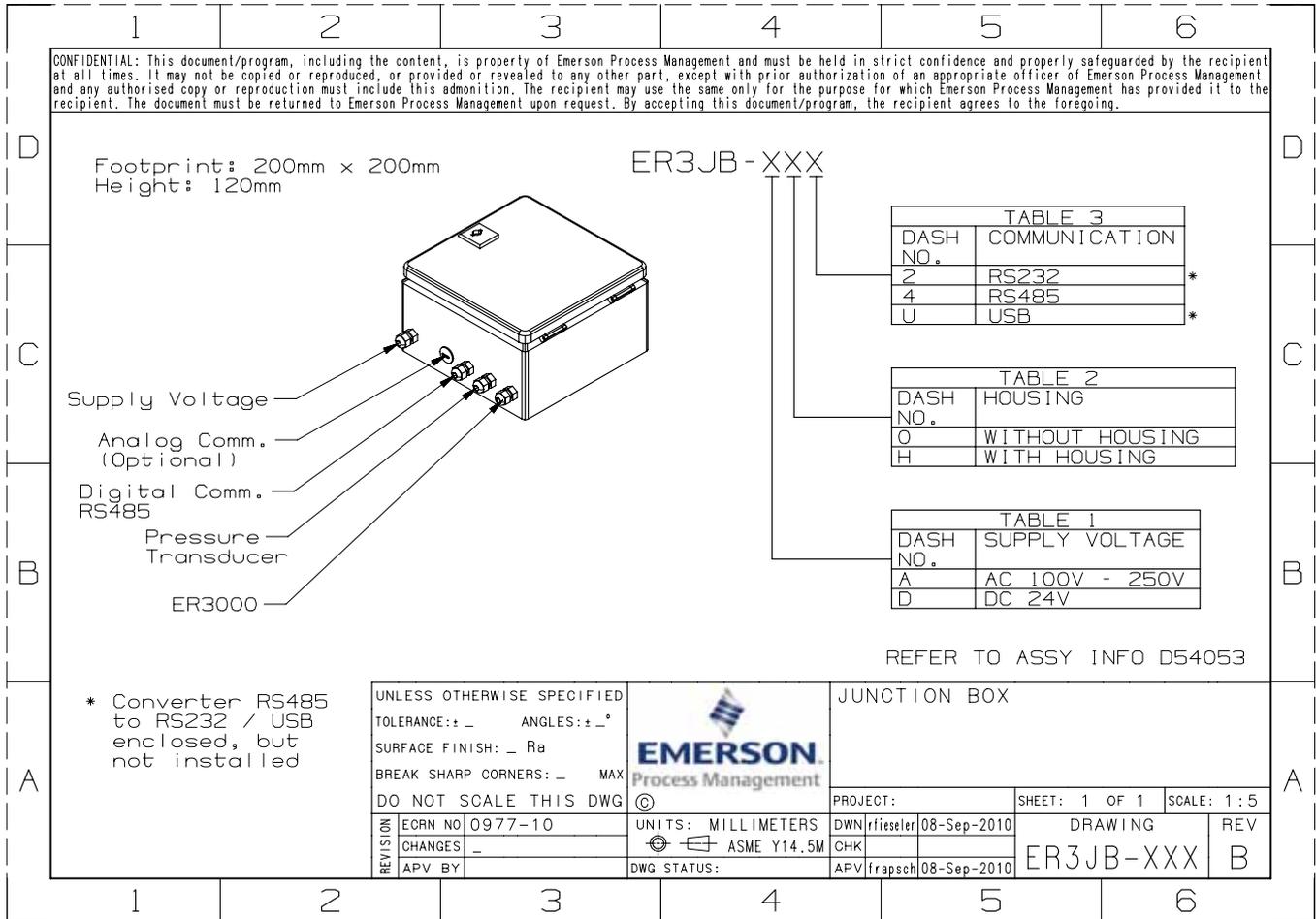
Instruction Manual

DOPSM54161XEN2

Rev. A

ER3000 Kit

Junction Box



Regulator 26-2000 Series

ALL DIMENSIONS REFERENCE

EXTERNAL VENT PORT LOCATION MAY VARY ACCORDING TO PORTING

PANEL CUT-OUT

INLET & OUTLET PORT

"A"	"A"
ALL 1/4 EXCEPT NPT	2.30 [58.4]
1/4 NPT	Ø2.48 [63.0]
3/8 NPT	Ø2.48 [63.0]
ALL 3/8 EXCEPT NPT	2.90 [73.7]
1/2 MS33649	2.90 [73.7]
1/2 NPT	Ø3.20 [81.3]
9/16 AMINGCO, AUTOCLAVE/SLIM-LINE	3.04 [77.2]

26-20XXXXXXX

26-20061A24170

SERIES NUMBER

3.65 [92.7]

Ø2.17 [55.1] / Ø2.13 [54.1]

94 [23.9]

52 [13.2] / .44 [11.2]

2.71 [68.6] MAX. / .51 [12.7] MIN.

6.55 [166.4]

2X 1/4-20 UNC. / 2X Ø.281 [Ø7.1] / Ø2.22 [Ø56.4]

1/8 NPT MAX. [150.8]

96.00 [2445.0]

2X Ø.281 [Ø7.1] / Ø2.22 [Ø56.4]

26-20XXXXXXX

26-2000 SERIES REGULATOR
SPRING LOADED, AIR OPERATED, (LOW VOLUME) WITH SEGREGATED NON-ADJUSTABLE VENT VALVE.

GENERAL SPECIFICATIONS:

INLET PRESSURE: SEE TABLE I

OUTLET PRESSURE: SEE TABLE II

DESIGN PROOF PRESSURE: 150% OF RATED PRESSURE

PRESSURE RATING: PER CRITERIA OF ANSI/ASME B31.3

OPERATING TEMPERATURE: -15°F/-26°C TO +165°F/+74°C

LEAKAGE: BUBBLE TIGHT (NONMETALLIC SEAT)
2 DROPS/MINUTE @ 150 SUS @ 2500 PSIG (METAL SEAT)

FLOW CAPACITY (CV): SEE TABLE VI

WEIGHT: APPROXIMATELY 5 1/2 LBS/2.5 KG

MAX. OPERATING TORQUE: N/A

MATERIALS CONTACTING LINE MEDIA:

SEAT, MAIN VALVE: SEE TABLE VII

SEAT, VENT: SEE TABLE VII

O-RING: SEE TABLE III

BACK-UP RING, TEFLON: /2

FILTER: 26-201X-XX BRONZE

26-202X-XX 300 SERIES SST

NO FILTER W/ 17-4 SST SEAT

BODY: SEE TABLE I

REMAINING PARTS: 300 SERIES SST & 17-4 SST

ASSEMBLY INFORMATION:
FOR ASSEMBLY OF THIS UNIT USE SPEC. A61234-01* (NONMETALLIC SEAT)
A61234-02* (METAL SEAT)

TOOLS:
389-2620R1D711

BACK-UP RING
K - TEFLON
K - CTFE (15000 INLET ONLY)
CV. (SEE TABLE VI)
SEAT MATERIAL (SEE TABLE VII)
O-RINGS (SEE TABLE III)
OUTLET PRESSURE (SEE TABLE II)
N - NON-METALLIC KIT
R - REPAIR KIT

TOP VIEW
GAUGE PORT OPTIONS - 1/4" NPT

0 - NO GAUGE PORTS
1 - ONE OUTLET GAUGE AT 90°
2 - TWO GAUGE PORTS AT 60°
3 - TWO GAUGE PORTS AT 60° (LEFT HAND INLET)
4 - TWO GAUGE PORTS AT 90°
5 - ONE OUTLET GAUGE AT 90° (LEFT HAND INLET)

TABLE I

CODE	MAIN VALVE SEAT AND VENT SEAT MATERIAL	VENT SEAT MATERIAL
0	CTFE (NOT AVAILABLE WITH 15,000 PSI INLET) <td>TEFLON </td>	TEFLON
1	NYLON <td>TEFLON </td>	TEFLON
2	VITON <td>TEFLON </td>	TEFLON
3	VEPEL <td>TEFLON </td>	TEFLON
4	PEEK <td>TEFLON </td>	TEFLON

TABLE II

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE III

DASH NO./LTR	INLET & OUTLET PORT SIZE	BACK-UP RING MATERIAL	VENT PORT
4	3/8	VITON	1/4 SAE
5	3/8	BUNA-N 90	1/4 NPT
6	1/2	NYLON	1/4 NPT
7	1/2	NYLON	1/4 NPT
8	1/2	NEOPRENE	1/4 NPT
9	9/16	VITON	1/4 NPT
		URETHANE	1/4 NPT
		EP	1/4 NPT

TABLE IV

DASH LTR	INLET & OUTLET PORT TYPE	VENT PORT
1	SAE	1/4 SAE
2	NPT	1/4 NPT
3	MS33649	1/4 MS33649
4	AMINGCO	1/4 AMINGCO
5	AUTOCLAVE/SLIM-LINE	1/4 NPT

TABLE V

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE VI

CODE	MAIN VALVE SEAT AND VENT SEAT MATERIAL	VENT SEAT MATERIAL
0	CTFE (NOT AVAILABLE WITH 15,000 PSI INLET)	TEFLON
1	NYLON	TEFLON
2	VITON	TEFLON
3	VEPEL	TEFLON
4	PEEK	TEFLON

TABLE VII

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE VIII

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE IX

DASH LTR	INLET & OUTLET PORT TYPE	VENT PORT
1	SAE	1/4 SAE
2	NPT	1/4 NPT
3	MS33649	1/4 MS33649
4	AMINGCO	1/4 AMINGCO
5	AUTOCLAVE/SLIM-LINE	1/4 NPT

TABLE X

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XI

CODE	MAIN VALVE SEAT AND VENT SEAT MATERIAL	VENT SEAT MATERIAL
0	CTFE (NOT AVAILABLE WITH 15,000 PSI INLET)	TEFLON
1	NYLON	TEFLON
2	VITON	TEFLON
3	VEPEL	TEFLON
4	PEEK	TEFLON

TABLE XII

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE XIII

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XIV

DASH LTR	INLET & OUTLET PORT TYPE	VENT PORT
1	SAE	1/4 SAE
2	NPT	1/4 NPT
3	MS33649	1/4 MS33649
4	AMINGCO	1/4 AMINGCO
5	AUTOCLAVE/SLIM-LINE	1/4 NPT

TABLE XV

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XVI

CODE	MAIN VALVE SEAT AND VENT SEAT MATERIAL	VENT SEAT MATERIAL
0	CTFE (NOT AVAILABLE WITH 15,000 PSI INLET)	TEFLON
1	NYLON	TEFLON
2	VITON	TEFLON
3	VEPEL	TEFLON
4	PEEK	TEFLON

TABLE XVII

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE XVIII

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XIX

DASH LTR	INLET & OUTLET PORT TYPE	VENT PORT
1	SAE	1/4 SAE
2	NPT	1/4 NPT
3	MS33649	1/4 MS33649
4	AMINGCO	1/4 AMINGCO
5	AUTOCLAVE/SLIM-LINE	1/4 NPT

TABLE XX

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XXI

CODE	MAIN VALVE SEAT AND VENT SEAT MATERIAL	VENT SEAT MATERIAL
0	CTFE (NOT AVAILABLE WITH 15,000 PSI INLET)	TEFLON
1	NYLON	TEFLON
2	VITON	TEFLON
3	VEPEL	TEFLON
4	PEEK	TEFLON

TABLE XXII

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE XXIII

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XXIV

DASH LTR	INLET & OUTLET PORT TYPE	VENT PORT
1	SAE	1/4 SAE
2	NPT	1/4 NPT
3	MS33649	1/4 MS33649
4	AMINGCO	1/4 AMINGCO
5	AUTOCLAVE/SLIM-LINE	1/4 NPT

TABLE XXV

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XXVI

CODE	MAIN VALVE SEAT AND VENT SEAT MATERIAL	VENT SEAT MATERIAL
0	CTFE (NOT AVAILABLE WITH 15,000 PSI INLET)	TEFLON
1	NYLON	TEFLON
2	VITON	TEFLON
3	VEPEL	TEFLON
4	PEEK	TEFLON

TABLE XXVII

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE XXVIII

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XXIX

DASH LTR	INLET & OUTLET PORT TYPE	VENT PORT
1	SAE	1/4 SAE
2	NPT	1/4 NPT
3	MS33649	1/4 MS33649
4	AMINGCO	1/4 AMINGCO
5	AUTOCLAVE/SLIM-LINE	1/4 NPT

TABLE XXX

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XXXI

CODE	MAIN VALVE SEAT AND VENT SEAT MATERIAL	VENT SEAT MATERIAL
0	CTFE (NOT AVAILABLE WITH 15,000 PSI INLET)	TEFLON
1	NYLON	TEFLON
2	VITON	TEFLON
3	VEPEL	TEFLON
4	PEEK	TEFLON

TABLE XXXII

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE XXXIII

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XXXIV

DASH LTR	INLET & OUTLET PORT TYPE	VENT PORT
1	SAE	1/4 SAE
2	NPT	1/4 NPT
3	MS33649	1/4 MS33649
4	AMINGCO	1/4 AMINGCO
5	AUTOCLAVE/SLIM-LINE	1/4 NPT

TABLE XXXV

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XXXVI

CODE	MAIN VALVE SEAT AND VENT SEAT MATERIAL	VENT SEAT MATERIAL
0	CTFE (NOT AVAILABLE WITH 15,000 PSI INLET)	TEFLON
1	NYLON	TEFLON
2	VITON	TEFLON
3	VEPEL	TEFLON
4	PEEK	TEFLON

TABLE XXXVII

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE XXXVIII

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XXXIX

DASH LTR	INLET & OUTLET PORT TYPE	VENT PORT
1	SAE	1/4 SAE
2	NPT	1/4 NPT
3	MS33649	1/4 MS33649
4	AMINGCO	1/4 AMINGCO
5	AUTOCLAVE/SLIM-LINE	1/4 NPT

TABLE XL

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XLI

CODE	MAIN VALVE SEAT AND VENT SEAT MATERIAL	VENT SEAT MATERIAL
0	CTFE (NOT AVAILABLE WITH 15,000 PSI INLET)	TEFLON
1	NYLON	TEFLON
2	VITON	TEFLON
3	VEPEL	TEFLON
4	PEEK	TEFLON

TABLE XLII

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE XLIII

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XLIV

DASH LTR	INLET & OUTLET PORT TYPE	VENT PORT
1	SAE	1/4 SAE
2	NPT	1/4 NPT
3	MS33649	1/4 MS33649
4	AMINGCO	1/4 AMINGCO
5	AUTOCLAVE/SLIM-LINE	1/4 NPT

TABLE XLV

DASH NO./LTR	INLET & OUTLET PORT SIZE
4	3/8
5	3/8
6	1/2
7	1/2
8	1/2
9	9/16

TABLE XLVI

CODE	MAIN VALVE SEAT AND VENT SEAT MATERIAL	VENT SEAT MATERIAL
0	CTFE (NOT AVAILABLE WITH 15,000 PSI INLET)	TEFLON
1	NYLON	TEFLON
2	VITON	TEFLON
3	VEPEL	TEFLON
4	PEEK	TEFLON

TABLE XLVII

DASH NO.	FLOW CAPACITY (CV)
0	.02 (NOT AVAILABLE FOR METAL SEATED MODELS)
1	.05
2	.12 (METAL & VEPEL SEAT ONLY)
3	.12 (METAL & VEPEL SEAT ONLY)

TABLE XLVIII

||
||
||

ER3000 Kit

Regulator DK Series

DK SERIES REGULATOR
LOW PRESSURE, SEGREGATED SELF VENTING, PRESS. REDUCING REGULATOR
GENERAL SPECIFICATIONS:

INLET PRESSURE: 1000 PSI
OUTLET PRESSURE: SEE TABLE III
DESIGN PROOF PRESSURE: 150% OF RATED PRESSURE
PRESSURE RATING: PER CRITERIA OF ANSI/ASME B31.3
OPERATING TEMPERATURE: _____
LEAKAGE: BUBBLE TIGHT
ORIFICE FLOW CAPACITY (Cv): 0.35
APPROX. WEIGHTS: DOME LOAD: 3.5 LBS., AIR LOAD: 5.5 LBS

MATERIALS CONTACTING LINE MEDIA:
SEAT, MAIN VALVE: SEE TABLE IV
O-RINGS: SEE TABLE IV
BODY, BONNET, BACK CAP: SEE TABLE II
DIAPHRAGM: SEE TABLE V
FILTER: 40 MICRON SINTERED BRASS
REMAINING PARTS: 300 SERIES SST/ BRASS

ASSEMBLY INFORMATION:
DOME LOADED, SEE: JTA101000-01
AIR LOADED, SEE: JTA101000-02

PART NUMBER
DKD116CVV9AGG9

DASH LTR	LOAD TYPE
D	DOME LOADED
A	AIR LOADED

DASH NO.	BODY, BONNET, BACK CAP MATERIAL
1	BRASS
6	316 SST

DASH NO.	OUTLET PRESSURE
6	0-600 PSI (AIR LOAD ONLY)
7	0-700 PSI (DOME LOAD ONLY)

DASH LTR	VALVE SEAT MATERIAL
C	CTFE
T	TEFLON
V	VESPEL

DASH NO.	DIAPHRAGM/O-RING MATERIAL
B	BUNA-N
E	E.P.
V	VITON

TABLE IX

INLET, OUTLET & GAUGE PORTS	PORT SIZE	NONE		
PORT TYPE	1/4	3/8	1/2	NONE
NPT	F	G	H	
SAE	A	B	C	9

TABLE VII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE VIII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE X

INLET, OUTLET & GAUGE PORTS	PORT SIZE	NONE		
PORT TYPE	1/4	3/8	1/2	NONE
NPT	F	G	H	
SAE	A	B	C	9

TABLE XI

TOP VIEW
A - NO GAUGE PORTS
B - TWO GAUGE PORTS AT 60°
D - ONE OUTLET GAUGE AT 90°

TABLE XII

DASH NO.	VALVE SEAT MATERIAL
C	CTFE
T	TEFLON
V	VESPEL

TABLE XIII

DASH NO.	OUTLET PRESSURE
6	0-600 PSI (AIR LOAD ONLY)
7	0-700 PSI (DOME LOAD ONLY)

TABLE XIV

DASH LTR	VALVE SEAT MATERIAL
C	CTFE
T	TEFLON
V	VESPEL

TABLE XV

DASH NO.	DIAPHRAGM/O-RING MATERIAL
B	BUNA-N
E	E.P.
V	VITON

TABLE XVI

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XVII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XVIII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XIX

INLET, OUTLET & GAUGE PORTS	PORT SIZE	NONE		
PORT TYPE	1/4	3/8	1/2	NONE
NPT	F	G	H	
SAE	A	B	C	9

TABLE XX

DASH NO.	VALVE SEAT MATERIAL
C	CTFE
T	TEFLON
V	VESPEL

TABLE XXI

DASH NO.	OUTLET PRESSURE
6	0-600 PSI (AIR LOAD ONLY)
7	0-700 PSI (DOME LOAD ONLY)

TABLE XXII

DASH LTR	VALVE SEAT MATERIAL
C	CTFE
T	TEFLON
V	VESPEL

TABLE XXIII

DASH NO.	DIAPHRAGM/O-RING MATERIAL
B	BUNA-N
E	E.P.
V	VITON

TABLE XXIV

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XXV

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XXVI

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XXVII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XXVIII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XXIX

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XXX

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XXXI

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XXXII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XXXIII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XXXIV

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XXXV

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XXXVI

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XXXVII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XXXVIII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XXXIX

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XL

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XLI

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XLII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XLIII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XLIV

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XLV

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XLVI

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XLVII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE XLVIII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE XLIX

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE L

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LI

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LIII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LIV

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LV

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LVI

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LVII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LVIII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LVIX

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LX

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXI

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXIII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXIV

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXV

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXVI

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXVII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXVIII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXIX

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXX

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXI

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXIII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXIV

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXV

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXVI

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXVII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXVIII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXIX

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXX

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXXI

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXXII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXXIII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXXIV

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXXV

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXXVI

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXXVII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXXVIII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXXIX

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXXX

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXXXI

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXXXII

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXXXIII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXXXIV

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXXXV

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXXXVI

DASH NO.	VENTING
V	SEGREGATED VENT (CAPTURED PORT 1/8")

TABLE LXXXXVII

DASH NO.	OPTIONAL ITEMS
9	NONE

TABLE LXXXXVIII

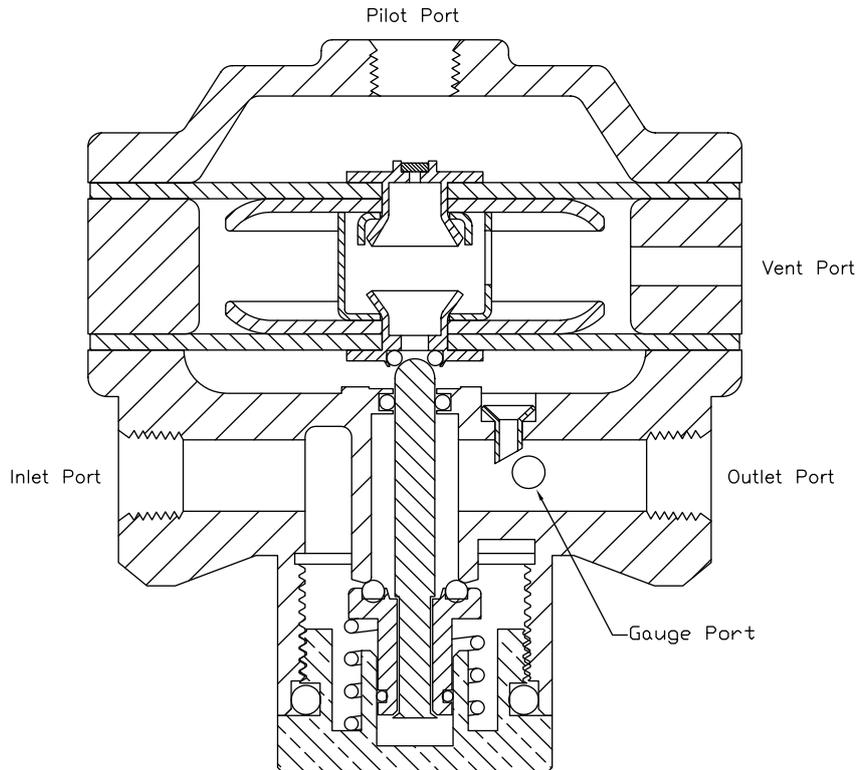
Regulator Flow Booster

Part Number	Installation Dimensions	Inlet & Outlet Port Size	Outlet Gauge Port Size	Pilot Port Size	Weight (lbs)	Cv
269-529-04		1/4 NPT	1/4 NPT	1/8 NPT	1.6	1.5
269-529-06		3/8 NPT				2.2

Pilot Operated Diaphragm Style Regulator
 Max. Inlet Pressure: 300 psig (20.4 bar)
 Max. Outlet Pressure: 290 psig (19.7 bar)
 (100psig when used with ER3000)

Temperature Range: 40°–120°F (4.4–48.9°C)
 Cast Zinc Body
 Pressure Venting is NOT Captured
 Constant bleed from pilot pressure to vent
 for improved control

Cutaway Drawing for:
 269-529-04
 269-529-06



ER3000 Kit

Regulator 44-5200 Series

ALL DIMENSIONS REFERENCE

44-5200 SERIES REGULATOR
 SPRING LOADED, HAND OPERATED, PISTON SENSED
 PRESSURE REDUCING REGULATOR

MODIFICATION FEATURES:
 AIR LOAD
 VENTING

GENERAL SPECIFICATIONS:
 INLET PRESSURE: SEE TABLE V
 OUTLET PRESSURE: SEE TABLE I
 DESIGN PROOF PRESSURE: 150% OF RATED PRESSURE
 PRESSURE RATING PER CRITERIA OF ANSI/ASME B31.3
 OPERATING TEMPERATURE: -15°F TO +200°F
 LEAKAGE: BUBBLE TIGHT
 FLOW CAPACITY (CV.): SEE TABLE V
 WEIGHT: APPROXIMATELY 2 LBS.

MATERIALS CONTACTING LINE MEDIA:
 SEATS: VESPEL
 O-RING: VITON
 BODY: SEE TABLE I
 REMAINING PARTS: BRASS & 300 SERIES SS

NOTES:
 1. 110 PSI MAX. DOSE PRESSURE AT 3500 PSI INLET.

ASSEMBLY INFORMATION:
 FOR ASSEMBLY OF THIS UNIT USE SPEC: A61746-13

KITS:
 NONMETALLIC:
 REPAIR:

44-52XX-XXXXA027

VENTING
 AIR LOAD
 MODIFICATION NUMBER

SERIES NUMBER: 44-5200
 MODIFICATION NUMBER: 241VA027

DASH NO.	MAX. INLET PRESSURE	FLOW CAPACITY
1	3500 PSI	CV. = .06
3	3500 PSI	CV. = .15

DASH NO.	INLET & OUTLET PORT SIZE
4	1/4"

DASH NO.	INLET & OUTLET PORT TYPE
2	NPT

DASH NO.	BODY MATERIAL
1	BRASS
6	316 SS

DASH NO.	OUTLET PRESSURE	PROOF PRESSURE
6	5-5000 PSI	150%

TESCOM CORPORATION
 INDUSTRIAL CONTROL DIVISION
 1000 W. 10TH ST., SUITE 100
 DENVER, CO 80202

FINISH: ✓

CHECKED BY: APPROVED BY:
 EVM 2-2-01 MMS 2-9-01
 NAME: _____

INSTALLATION INFO
 SCALE: 1:1 SIZE NUMBER: 44-52XX-XXXXA027
 CODE NO. 13669 C SHT. 1 OF 1

REVISIONS: _____
 DATE: _____
 REV. DATE: _____
 ECO NO.: _____
 MFG. SPEC. 80001

DRAWING MADE IN THIRD ANGLE PROJECTION
 (DO NOT SCALE DRAWING)

REFERENCE DRAWING(S): _____

Back Pressure Regulator 26-1700 Series

26-17XX-XX-687A

ALL DIMENSIONS REFERENCE

PANEL CUT-OUT

26-1700 SERIES REGULATOR
 AIR LOADED, BACK PRESSURE REGULATOR.

MODIFICATION FEATURES.
 USED IN ER3B KITS
 SEAT MATERIAL OPTIONS
 O-RING OPTIONS

GENERAL SPECIFICATIONS.
 INLET PRESSURE: SEE TABLE I I
 DESIGN PROOF PRESSURE: 150% OF RATED PRESSURE
 PRESSURE RATING: PER CRITERIA OF ANSI/ASME B31.3
 OPERATING TEMPERATURE: SEE TABLE VI
 LEAKAGE: BUBBLE TIGHT
 FLOW CAPACITY (CV): .10 (26-17X1 THRU 26-17X4)
 .14 (26-17X5)
 WEIGHT: APPROXIMATELY 5 LBS
 MAX. OPERATING TORQUE: 40 IN.-LBS.
 MATERIALS CONTACTING LINE MEDIA:
 SEAT, MAIN VALVE: SEE TABLE I I I
 SEAL: CTFE
 O-RING: SEE TABLE VI
 BACK-UP RING: TEFLON
 BODY: SEE TABLE I
 REMAINING PARTS: 300 SERIES SST

ASSEMBLY INFORMATION.
 FOR ASSEMBLY OF THIS UNIT USE SPEC. A7181-01

SERIES NUMBER
 26-17657241687A

MODIFICATION NUMBER
 AIR ACTUATED

TABLE I	LETTER CODE	O-RING MATERIAL	OPERATING TEMPERATURE
1	D	BUNA	-65°F TO +165°F
2	U	NITRILE	-40°F TO +200°F
3	V	KALREZ	0°F TO +200°F
4	Z	EP	-65°F TO +165°F

TABLE II	DASH NO.	INLET PRESSURE
1	1	200-10000 PSI
2	2	50-6000 PSI
3	3	15-2500 PSI
4	4	10-1500 PSI

TABLE III	DASH NO.	SEAT MATERIAL
1	0	CTFE (26-17X1 THRU 26-17X4 ONLY)
2	1	TEFLON (26-17X5 ONLY)
3	2	VERBEL SPT

TABLE IV	DASH NO.	INLET & OUTLET PORT TYPE
1	1	1/4"
2	2	NPT

REFERENCE DRAWING(S)

REVISIONS

REV	DATE	BY	APPR	DESC
A	12-10-10	2003-10	000	REVISED

INSTALLATION INFO.

SCALE: 1:1
 SIZE NUMBER: 26-17XX-XX-687A
 CODE NO. 13669
 C SFT. 1 1 CP

FINISH:

UNLESS OTHERWISE SPECIFIED:
 SURFACE FINISH: 125
 SURFACE ROUGHNESS: 10"
 CORNER & RADIUS: R2
 THREADS: UNF-2
 REMOVE ALL BURRS
 MFG. SPEC. 6001

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APPROVED BY:
 DESIGNED BY: 12-10-10
 CHECKED BY: 12-15-10
 DRAWN BY: 12-10-10

300-038 0/06

ER3000 Kit

Hydraulic Back Pressure Regulator 54-2100 Series

54-2100 SERIES REGULATOR
AIR LOADED, BACK PRESSURE REGULATOR.

GENERAL SPECIFICATIONS:
 INLET PRESSURE: SEE TABLE II
 DESIGN PROOF PRESSURE: 150% OF RATED PRESSURE
 PRESSURE RATING: PER CRITERIA OF ANSI/ASME B31.3
 OPERATING TEMPERATURE: SEE TABLE III
 LEAKAGE: 2 DROPS/MIN. @ 150 S.U.S. @ 2500 PSI
 LEAKAGE: 2 DROPS/MIN. @ 150 S.U.S. @ 172 bar
 FLOW CAPACITY (CV): .08
 WEIGHT: APPROXIMATELY 5 LBS / 2.3 Kg

MATERIALS CONTACTING LINE MEDIA:
 SEAT & POPPET: 17-4 PH
 SEAL VALVE SEAL VESPEL
 SENSOR SEAL C1FE
 O-RING: SEE TABLE III
 BACK-UP RING: TEFLON
 BACK-UP RINGS NOT USED/TEFLON O-RING
 BODY: SEE TABLE I
 REMAINING PARTS: 300 SERIES SST
ASSEMBLY INFORMATION:
 FOR ASSEMBLY OF THIS UNIT USE SPEC: A41192-02

54-21XXXXA*

ALL DIMENSIONS REFERENCE

PANEL REF. 2.0[50.8] MAX. TH.

7/8 NPT

5.91[150.1]
6.589[169.6]

82.22[56.4]

1.40[35.6]
2.80[71.1]

2.51[63.5] MAX
1.01[25.4] MIN

4.8[121.9]

2X 1/4-20 UNC SCREW REF.

54-2161D24A

SERIES NUMBER AIR ACTUATED

2.17[55.1]
2.13[54.1]

.45[11.4]

.52[13.2]
.44[11.2]

3.65[92.7]

"A"
"B"
"A"

INLET & OUTLET PORT

1/4 EXCEPT NPT	2.30[58.4]
1/4 & 3/8 NPT	62.48[63.0]
3/8 AMINCO	3.08[78.2]
3/8 EXCEPT NPT	3.30[83.8]

DASH NO.	BODY MATERIAL
6	316 SST

DASH NO.	INLET PRESSURE
1	200 - 10000 PSI / 14 - 690 bar
2	50 - 6000 PSI / 3.5 - 414 bar
3	15 - 2500 PSI / 1 - 172 bar
4	10 - 1500 PSI / 0.7 - 103 bar

LETTER CODE	DYNAMIC SEAT	SOFT GOODS MATERIAL	OPERATING TEMP.
D	BUNA-N	BUNA-N	17-4 SST -65°F TO +165°F -54°C TO +74°C
J	TEFLON ENCAP.	VITON-A	17-4 SST -28°C TO +93°C
T	VITON-A	VITON-A	17-4 SST -19°F TO +200°F
V	KALREZ	KALREZ	17-4 SST -26.5 TO +93°C
W	TEFLON	TEFLON	17-4 SST -40°F TO +165°F
Z	E.P.	E.P.	17-4 SST -28°C TO +93°C

TABLE I: BODY MATERIAL

TABLE II: INLET PRESSURE

TABLE III: O-RINGS

TABLE IV: DASH IN & OUT PORT TYPE

TABLE V: DASH IN & OUT PORT SIZE

① DIMENSIONS IN INCH [mm] / MASZE IN ZOLL [mm]

MATERIAL: TESCOM Seimasdorf-Germay

FINISH: UNLESS OTHERWISE SPECIFIED: 0.0008 ANGLES: A1

DRIVING MADE IN THRU

SCALE: 1:1

SIZE NUMBER: 54-21XXXXA*

CODE NO. 13669

C

SHT. 1 OF 1

FC

NOTES:

- PRESSURE AT WHICH REGULATOR IS USED MUST BE COMPATIBLE WITH THE PRESSURE RATING OF THE REGULATOR AND PORT SIZE/TYPED PROVIDED.

△ 10,000 PSI / 690 bar INLET CAN NOT BE USED WITH 3/8 SAE PORT OR 3/8 MS33649

ER3000 Kit

11 Parts List

#	Part No.	Description
1	ER3000SI-1	Electro pneumatic Controller
1	26-20xx x2x A2x0 DK-D17xxV9Axx9 DK-A16xxV9Axx9 269-529-04 269-529-06 44-52x6-241VA-027 26-176x-2xA 54-216x-x2xA	Mechanical Regulator, air loaded including Elbow compression fitting - NPT 1/4" "x": see order code
1	D51656-NB-xxx	Pressure transducer ± 0.25%, 4 - 20 mA, 1/4" NPT male or ± 0.1%, 4 - 20 mA, 1/4" NPT male including T-piece NPT 1/4", 2 x selected fitting size
1	D54102	Assembly material: 1 Adapter NPT 1/4" - NPT 1/8" 1 Muffler, NPT 1/4" 1 Cable gland NPT 1/2" 1 Cap NPT 1/2" 4 screws 8-32 UNC 1 Filter 1/8" NPT
1	85138-01	ER3000 Cable, 12 wire, shielded, 1.5 m circuit board connector – open end
1	D54115	Transducer Cable, 2 wire, shielded, 1.5 m DIN 175301-803A – open end
(1)	44-5212-241V-002	Regulator inlet max. 240 bar / 3000 psi, outlet 7 bar / 100 psi, Cv=0.06, venting, brass body, 1/4" NPT ports with 1 Gauge 10 bar (150 psi), 63 mm, brass, 1/4" NPT Tube fittings
(1)	ER3JB-xx	Junction Box
(1)	85061	Converter RS485 – RS232
(1)	82948	Converter RS485 - USB

12 Appendix

- Pressure Transducer
- RS485 Converter
- Instructions for Use of Regulator
see attached pdf files
26-20, 54-20 dopsmd44307xde2.pdf
26-17, 54-21 dopsmd43746xde2.pdf
44-52 dopsmd43747xde2.pdf
DK
flow booster 269529 flow booster.pdf
- ER3000 Catalog pages
ER3000 User's Manual
see pdf file, or download from the Tescom Internet page:

www.Tescom.com for the English version
www.Tescom-Europe.com for the German version
- ER3000 Software
please download latest version from the Tescom Internet page:

www.Tescom.com

12.1 Pressure Transducer

Order Code - Bestellcode:

D51656 - NB - xxx

NB:	NPT1/4"	
xxx:	1	1 bar
	2,5	2,5 bar
	4	4 bar
	6	6 bar
	10	10 bar
	25	25 bar
	40	40 bar
	60	60 bar
	100	100 bar
	250	250 bar
	400	400 bar
	600	600 bar



ER3000 Kit

Description

This series of pressure transmitters has been carefully designed to cover the majority of industrial applications with instruments readily available from stock.

Compact design and robust construction make these instruments suitable for all applications in machine construction, process control, laboratory or quality and materials testing equipment.

There is an extraordinary range of instrument variants resulting from the fact that various mechanical and electrical connections can be combined with each other to almost any extent.

Structure

All wetted parts are made of stainless steel and are hermetically welded. Therefore there is no need for additional sealing material, which could possibly react with the pressure medium. The compact case is also made of stainless steel and provides IP 65 ingress protection (special versions up to IP 68).

The transmitters can be supplied with a non-stabilized direct voltage of 10 (14) ... 30 V and provide standard industrial output signals.

The model S-11 with flush diaphragm is particularly suitable for the measurement of viscous fluids or media containing particulates that may clog the pressure connection of standard industrial transmitters. Thus, a trouble-free pressure measurement is ensured. Pressure transmitters with flush diaphragm are available in pressure ranges from 0 ... 0.1 bar to 0 ... 600 bar. For applications with higher temperature requirements an integrated cooling element enables medium temperatures of up to 150 °C (302 °F).

For the pressure ranges from 0 ... 0.25 bar up to 0 ... 1000 bar the pressure transmitters can be delivered for oxygen applications (technical safety check of the BAM, Bundesanstalt für Materialforschung und -prüfung available).

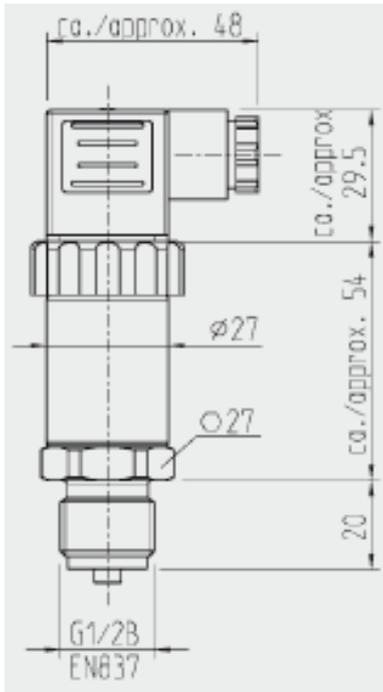
Specifications		Model S-10 / S-11										
Pressure ranges ¹⁾	bar	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10
Over pressure safety	bar	1	1.5	2	2	4	5	10	10	17	35	35
Burst pressure	bar	2	2	2.4	2.4	4.8	6	12	12	20.5	42	42
Pressure ranges ¹⁾	bar	16	25	40	60	100	160	250	400	600	1000 ¹⁾	
Over pressure safety	bar	80	50	80	120	200	320	500	800	1200	1500	
Burst pressure	bar	96	96	400	550	800	1000	1200	1700 ²⁾	2400 ²⁾	3000	
(Vacuum, gauge pressure, compound range, absolute pressure, other pressure ranges and units are available) ¹⁾ Only model S-10. ²⁾ For model S-11: the value specified in the table applies only when sealing is realised with the sealing ring underneath the hex. Otherwise max. 1500 bar applies												
Materials												
■ Wetted parts		Stainless steel										
» Model S-10 ¹⁾		Stainless steel										
» Model S-11		Stainless steel O-ring: NBR ³⁾ (FPM/FKM)										
■ Case		Stainless steel										
■ Internal transmission fluid ⁴⁾		Synthetic oil (Halocarbon oil for oxygen applications)										
		³⁾ O-ring made of FPM/FKM for Model S-11 with integrated cooling element.										
		⁴⁾ Not for S-10 with pressure ranges > 25 bar.										
Power supply U+	U+ in VDC	10 ... 30 (14 ... 30 with signal output 0 ... 10 V)										
Signal output and maximum ohmic load RA	RA in Ohm	4 ... 20 mA, 2-wire					RA ≤ (U+ - 10 V) / 0.02 A					
		0 ... 20 mA, 3-wire					RA ≤ (U+ - 3 V) / 0.02 A					
		0 ... 5 V, 3-wire					RA > 5 k					
		0 ... 10 V, 3-wire					RA > 10 k					
		{other signal outputs on request}										
Adjustability zero/span	%	± 5 using potentiometers inside the instrument										
Response time (10 ... 90 %)	ms	≤ 1 (≤ 10 ms at medium temperatures below < -30 °C for pressure ranges up to 25 bar or with flush diaphragm)										
Insulation voltage	VDC	500 ⁵⁾										
		⁵⁾ NEC Class 02 power supply (low voltage and low current max. 100 VA even under fault conditions)										
Accuracy ⁶⁾	% of span	≤ 0.5 (0.25) ⁷⁾										
		⁶⁾ Including non-linearity, hysteresis, zero point and full scale error (corresponds to error of measurement per IEC 61298-2)										
		Adjusted in vertical mounting position with lower pressure connection										
		⁷⁾ Accuracy { } for pressure ranges ≥ 0.25 bar										
Non-linearity	% of span	≤ 0.2 (BFSL) according to IEC 61298-2										
Non-repeatability	% of span	≤ 0.1										
1-year stability	% of span	≤ 0.2 (at reference conditions)										
Permissible temperature of												
■ Medium ⁸⁾		-30 ... +100 °C (-40 ... +125 °C)					-22 ... +212 °F (-40 ... +257 °F)					
» S-11 with cooling element		-20 ... +150 °C					-4 ... +302 °F					
■ Ambience ⁸⁾		-20 ... +80 °C					-4 ... +176 °F					
» S-11 with cooling element		-20 ... +80 °C					-4 ... +176 °F					
■ Storage ⁸⁾		-40 ... +100 °C					-40 ... +212 °F					
» S-11 with cooling element		-20 ... +100 °C					-4 ... +212 °F					
		⁸⁾ Also complies with EN 50178, Tab. 7, Operation (C) 4K4H, Storage (D) 1K4, Transport (E) 2K3										
Rated temperature range		0 ... +80 °C					32 ... +176 °F					
Temperature coefficients within rated temperature range												
■ Mean TC of zero	% of span	≤ 0.2 / 10 K (< 0.4 for pressure range ≤ 0.25 bar)										
■ Mean TC of range	% of span	≤ 0.2 / 10 K										
CE-conformity												
■ Pressure equipment directive		97/23/EC										
■ EMC directive		2004/108/EEC, EN 61 326 Emission (Group 1, Class B) and Immunity (industrial locations)										
Shock resistance	g	1000 according to IEC 60068-2-27 (mechanical shock)										
Vibration resistance	g	20 according to IEC 60068-2-6 (vibration under resonance)										

ER3000 Kit

Dimensions

DIN 175301-803 A

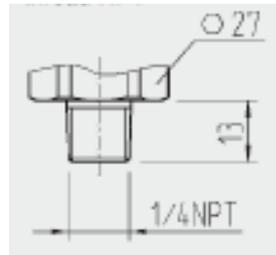
L-connector



Connection NB

1/4 NPT

per "Nominal size for US standard tapered pipe thread NPT"



Electrical Connection

L-connector DIN 175301-803 A	
2-wire	U+ = 1 U- = 2
3-wire	U+ = 1 U- = 2 S+ = 3
Cable screen	
Wire gauge	up to max. 1.5 mm ²
Diameter of cable	6-8 mm (ship approval: 10-14 mm)
Ingress protection per IEC 60 529	IP 65

Instruction Manual

DOPSMD54161XEN2

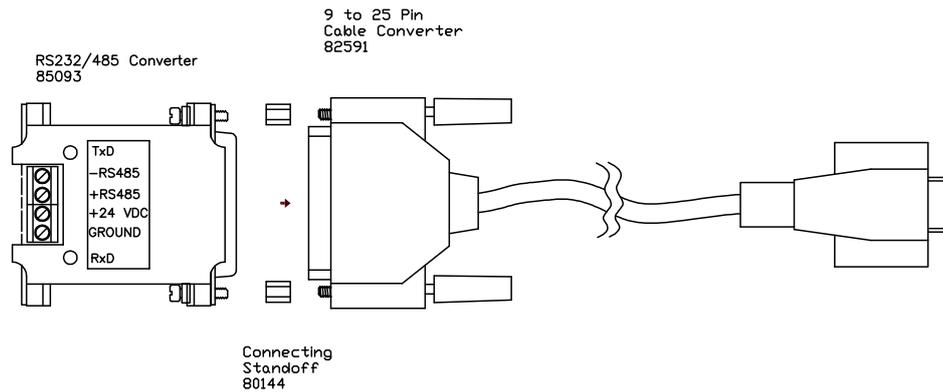
Rev. A

ER3000 Kit

12.2 RS232-485 Converter

RS2485 to RS232 Converter including 9 to 25 pin cable

Part number: 85061



USB to RS485 Converter

Part number: 82948



Instruction for using the datalink communications USB to RS485 converter with the ER3000

Dip Switch Setup:

Set the 4 Dip Switches located on the back of converter to RS485, ECHO OFF, 2 WIRE, 2 WIRE

Wiring:

Attach the green wire from the ER3000 to the Converter's TDA(-) PIN and the blue wire to the TDB(+) Pin

Driver Installation:

Follow directions provided by Datalink Communications

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Instruction Manual

DOPSM54161XEN2

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ER3000 Kit

For your own notes

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Instruction Manual

DOPSM54161XEN2

Rev. A

ER3000 Kit



WARNING! Do not attempt to select, install, use or maintain this product until you have read and fully understood the *TESCOM Safety, Installation & Operation Precautions*.

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