



45532660
Edition 2
August 2007

Doser

Maintenance Manual



Save These Instructions



INDEX

1 DOSER	3
1.1 To Dismount the Doser by the Mechanical Tool Changer (MTC).....	3
1.2 To Dismount the Gun.....	4
1.3 To Separate the Doser Unit from the Drive Unit.....	5
1.4 Disassemble of the Doser Unit for Cleaning and Change of Seals	6
1.4.1 Disassemble the Doser Unit	6
1.4.2 Disassemble of Doser Chamber	7
1.4.3 Reassemble Doser Chamber	7
1.4.4 To Disassemble Packing Housing, S- and R-type.....	8
1.4.5 To Dismantle the Inlet Valve Complete. S type.....	8
1.4.6 Dismounting the guidance rings for the docking sequence and shim, R-type.....	9
1.4.7 Mounting the guidance for the docking sequence and shim, R-type.....	9
1.4.8 Dismounting the electrical coupling (ATC), R-type	9
1.4.9 Mounting the electrical coupling (ATC), R-type	9
1.4.10 Dismantling of the Female Docking Valve.....	10
1.4.11 Assembly of the Female Docking Valve	10
1.5 Reassemble the dosing unit.....	11
1.5.1 To Reassemble the Inlet Valve Complete. S type	11
1.5.2 Reassemble Packing Housing, S- and R-type	11
1.5.3 To Reassemble the Doser Unit.....	12
1.6 To Dismantle the Drive Unit.....	13
1.7 To Reassemble the Drive Unit	14
1.8 To Reassemble the Doser Unit and the Drive Unit.....	16
1.9 To Exchange Heating Pins/Manchett and Temperature Sensor	16
1.9.1 To Exchange the Heating Pins in the Packing Housing, S type	16
1.9.2 To Exchange the Heating Pins in the Packing Housing, R type.....	17
1.9.3 To Exchange the Heating Pins in the Doser Chamber	17
1.9.4 To Exchange the Heating Manchett	17
1.9.5 To Exchange the Temperature Sensor Pt100	17
1.10 Hydraulics, Pneumatics and Electrical Contacts in the Doser	18
1.10.1 Oil Hoses in the Sxxx Doser	18
1.10.2 Pneumatic hoses in the Sxxx doser.....	19
1.10.3 Oil Hoses in the Rxxx doser	20
1.10.4 Pneumatic Hoses in the Rxxx doser.....	21
1.10.5 Electrical-contacts in the doser: S80/S250.....	22
1.10.6 El-kontakter i doser: R80/R250	23

1 Doser

Drawings/Component lists:

- | | | |
|------------------|----------|------------------|
| • Doser complete | S80 | T2X-01-803-IR, |
| | S250 | T2X-01-852-IR, |
| | R80 ATC | T2X-01-903-IR or |
| | R250 ATC | T2X-01-951-IR |

Use the drawings and the component list for the specified unit. In the description below, the numbers (xx) refer to the corresponding figures on the drawing. They refer to the drawing(s) mentioned first in the list, unless otherwise stated.



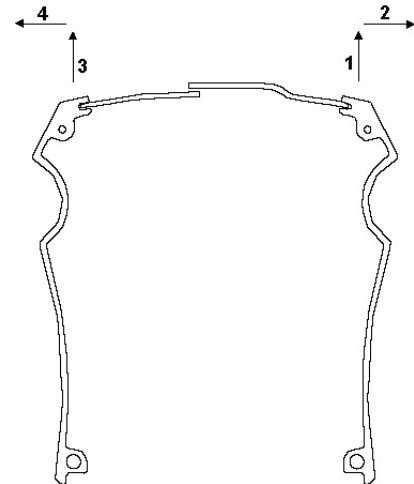
WARNING

Always turn off the air and material supply & depressurize the entire system before installing, removing or adjusting any accessory on this product, or before performing any maintenance on this product or any accessory. Failure to follow these instructions can result in personal injury.

If possible the doser should be in “empty” position. This reduces the cleaning work.

1.1 To Dismount the Doser by the Mechanical Tool Changer (MTC)

- Open the cable relief hinge (2 on T2X-05-507-IR) by turning the quarter lock (3 on T2X-05-507-IR).
- Open the side doors (5 and 27) by pulling them backwards and angle them outwards (see picture beside, 1234).
- Disconnect the electrical contacts (36 and 9 poles) and remove the cables out from the doser (do not forget to press the snap lock on the contact)
- Disconnect the air hose by the quick connector (6). For the S doser, you must also disconnect the oil hoses at their quick connectors (7 on T2X-05-507-IR).
Note: Oil will come out, plug the hoses and/or use a container to collect the oil.
- Pull out the safety bolt (18 on the Manual Tool changer), hold the doser firmly by the doser handles (11 and 12) when opening the tool changer handle (8) on the Tool changer. You can now remove the doser.
Note: The weight of the doser is up to 30kg.



1.2 To Dismount the Gun

Drawings/Component lists

- | | | |
|------------------|----------|------------------|
| • Doser complete | S80 | T2X-01-803-IR, |
| | S250 | T2X-01-852-IR, |
| | R80 ATC | T2X-01-903-IR or |
| | R250 ATC | T2X-01-951-IR |

a) Unscrew the outer two screws (17) and remove the gun cover (15).

b) Unscrew the other two screws (17) and remove the gun.

To dismantle the gun: refer to “Doser – Gun T2x-06-515-xxxxxx-IR” Maintenance Manual form 45532678.

NOTICE

All parts have to be carefully cleaned immediately. Particularly if the hot melt material sets in the atmosphere. Don't forget the connection parts. Removed seals must be replaced.

1.3 To Separate the Doser Unit from the Drive Unit

Drawings/Component lists:

- | | | |
|------------------|------------------------------------|---|
| • Doser complete | S80
S250
R80 ATC
R250 ATC | T2X-01-803-IR,
T2X-01-852-IR,
T2X-01-903-IR or
T2X-01-951-IR |
| • Driving unit | x80
x250 | T2X-05-561-IR
T2X-05-560-IR |

This operation requires, the following special tools and preparations:

NOTICE

- A hot air gun
- A vice equipped with protecting aluminium brackets
- A calibrated torque wrench

To split the doser unit from the drive unit.

- a) Remove the gun.
- b) Place drive unit upside down, resting on the tool changer and fold out the two doors (5 and 27). See picture on page 3. Unscrew the two screws (20) at the bottom of the doser and remove the bottom cover (10) as well as the Profile doser chamber (9).
- c) Unscrew and remove the 4 screws (18 and 20) remove the lower handle (12).
- d) Disconnect air hoses (S-type) and lubrication hoses from the adapter flange (2) on the driving unit. See the last pages in this chapter for more information.
- e) **Type R:** Unscrew and remove the 8 screws (21) from the doser complete. The doser unit can now be parted from the drive unit. To remove the spindle profile (1); first remove the indicator glasses.
- f) **Type S:** Unscrew and remove the 8 screws (21) from the doser complete. The Dosing unit is now separated from the Drive unit. To remove the spindle profile (1 on T2X-05-560-IR/-561-IR); first remove the indicator glasses.

The driving unit is now separated from the dosing unit.

1.4 Disassemble of the Doser Unit for Cleaning and Change of Seals

1.4.1 Disassemble the Doser Unit

Drawings/Component lists:

• Packing housing Dosing unit	S80/250	T2X-05-514-IR T2X-05-562-IR/-564-IR
• Packing housing Dosing unit	R80/250 ATC	T2X-05-515-IR/-516-IR T2X-05-566-IR/-567-IR/-568-IR
• Doser chamber Doser chamber	x80 x250	T2X-05-509-IR T2X-05-520-IR

NOTICE

This operation requires, the following special tools and preparations:

- Pointed tools to remove the old seals

- Dismount the electrical contact (15 on T2X-05-514-IR/-515-IR/-516-IR) on the packing housing with its bracket (19) by unscrewing the electrical contact bracket screws (9).
- Unplug the electrical contacts pneumatic valves on the packing housing. See the last pages in this chapter for more information.
- Remove the air and lubrication hoses and the two screws (2) on the dosing unit. The Doser chamber (8) and packing housing (7) can now be separated.
- Pull out the piston (4) of the doser chamber.
- Note that the sealing (2) on the doser chamber is loose.

The doser chamber is now separated from the packing housing.

1.4.2 Disassemble of Doser Chamber

Drawing/components list:

- Doser chamber T2X-05-509-IR/-520-IR
- Connection bracket for gun T2X-05-534-IR

- a) Remove the four screws (4) and dismount the gun complete bracket (2).
- b) Unscrew the nut (2 on T2X-05-534-IR) to remove pressure sensor (3 on T2X-05-534-IR).



WARNING

Don't use any tools to remove pressure sensor. Handle the sensor carefully.

- c) Remove the connectors (5 on T2X-05-534-IR) and O-ring (4 on T2X-05-534-IR).
- d) Remove electric connector (17 and 18) by unscrewing the two screws (12).
- e) Remove heating jacket (8) by removing the screw (two screws on x250).
- f) Remove heating pin (16) and the Pt100 sensor (15) by loosen and remove the grub screws (13).
- g) Remove the Vektorseal (14) from its recess.

The doser chamber and connection bracket are now ready for cleaning.

NOTICE

All parts have to be carefully cleaned immediately. Particularly if the hot melt material is tempered in the atmosphere. Don't forget the connection parts.

1.4.3 Reassemble Doser Chamber

Drawing/components list:

- Doser chamber T2X-05-509-IR/-520-IR
- Connection bracket for gun T2X-05-534-IR

Note: *Be careful, not to destroy the edges of the seal! Do not apply grease to the o-ring before fitting.*

- a) Insert the O-ring in to the Vektorseal® (14), then press the Vektorseal® with the O-ring in to the dose chamber (1). The O-ring must point down and into the chamber.
- b) Insert the heating pin (16) and the Pt100 sensor (15) and tighten screws (13).
- c) Mount the heating jacket (8).
- d) Refit electric connector (17 and 18) with the screws (12).

- e) Mount the connectors (5 on T2X-05-534-IR). Insert lightly greased sealing (5) and the O-ring (6) into grooves.
- f) Put back O-ring and pressure sensor (3 and 4 on T2X-05-534-IR). Tighten nut (2 on T2X-05-534-IR).

**WARNING****Handle the pressure sensor carefully.**

- g) Put back the gun bracket (2) and tighten the four screws (4).

1.4.4 To Disassemble Packing Housing, S- and R-type

Drawings/Component lists:

- | | | |
|-------------------|-------------|---------------|
| • Inlet valve | S80/250 | T2X-05-510-IR |
| • Packing housing | | T2X-05-514-IR |
| • Packing housing | R80/250 ATC | T2X-05-515-IR |

- a) Remove the O-ring (2) and the two piston guiding rings (3).
- b) To remove the Stepseal® (4), use the special pointed tool. After pulling this out, do the same with the O-ring. Be careful not to damage the inner surfaces of the packing housing.
- c) Remove both couplings (5) and the lubrication hose.
- d) Unscrew the four screws (16) to remove heat insulation plate complete (10).
- e) Unscrew the grub screws (8) and remove the heating pins.
- f) **Only S-type:** See 1.4.5

The packing housing is now ready for cleaning.

1.4.5 To Dismantle the Inlet Valve Complete. S type

- Drawings/Component lists: T2X-05-510-IR

- a) Unscrew the coupling (24 on T2X-01-803-IR/852-IR) and remove the Dowty seal (25 on T2X-01-803-IR/852-IR).
- b) Disconnect the air hose from the fitting on the bottom of the inlet valve (2).
- c) Disconnect the two oil hoses from the fittings on the side of the inlet valve (2).
- d) First unscrew the two screws (7 on T2X-05-510-IR), and then the two screws (11 on T2X-05-514-IR). Be careful not to loose the two washers (13 on T2X-05-514-IR). The inlet valve complete can now be dismantled. Note the two cylindrical pins (10). If needed, use two screw drivers to carefully force a gap between the packing housing (1 on T2X-05-514-IR) and the inlet valve (2 on T2X-05-514-IR). Do not loose the o-ring (6) between the inlet valve and the packing housing.
- e) Unscrew the two screws (9 on T2X-05-510-IR). The inlet valve (2 on T2X-05-510-IR) can now be separated from the connector – inlet valve (1 on T2X-05-510-IR).
- f) Loosen and remove the grub screws (8) and push out heating pin (3). Don't pull the cables!

*Now the Inlet valve can be exchanged for a replacement unit.
Reassemble the dosing unit, see chapter 1.5*

1.4.6 Dismounting the guidance rings for the docking sequence and shim, R-type

- Drawings/Component lists: T2X-05-515-IR
- a) Loosen and remove the screws (18) and (20) on doser complete and remove the handle (12) on (T2X-01-903-IR/-951-IR).
- b) Loosen and remove the two screws (44) and remove the shim holders (43). The shims (51) can now be removed.
- c) When changing the guidance rings (21): Loosen and remove the two grub screws (8), then use a tool to be able to drive out the guidance rings for the docking sequence (21). Be careful not damage the package housing.

1.4.7 Mounting the guidance for the docking sequence and shim, R-type

- Drawings/Component lists: T2X-05-515-IR
- a) Put new shims (51) in place. Mount the shim holders (43) and tighten the two screws (44).
- b) In case the two guidance rings (21) have been removed: Put in the two guiding rings (8) in place according to the drawing. Lock the guidance rings with the grub screws (21). Be careful not damage the package housing.
- c) Mount the handle (12) on the doser and tighten the four screws (18) and (19) on (T2X-01-903-IR/-951-IR).

1.4.8 Dismounting the electrical coupling (ATC), R-type

- Drawings/Component lists: T2X-05-515-IR
- a) Unscrew the two screws (31) and remove the retaining flange (34).
- b) Remove the fitting key (42) and pull out the electrical coupling (35).

1.4.9 Mounting the electrical coupling (ATC), R-type

- Drawings/Component lists: T2X-05-515-IR

Put the electrical coupling (35) in place, in correct position with the fitting key (42).
Mount the retaining flange (34) and tighten the two screws.

1.4.10 Dismantling of the Female Docking Valve

Drawings/Component lists:

- Packing housing Rxxx ATC T2X-05-515-IR
- a) To split the docking valve, unscrew the four countersunk screws (31).
Note: Take care; the spring (26) is loaded!
 - b) The following parts will then come out; the retaining flange (30), the valve seat (29) together with the O-ring (28) and the valve shim (27).
 - c) The spring (26) can now be removed.
Note: The shim (25) normally stays in place. Do not loose it when cleaning the packing housing (1). The guiding pin (24) and the three alignment pins (23) are permanently mounted in the packing housing (1) and can't be removed.
 - d) All parts must be carefully cleaned and checked for any signs of wear, cuts and scratches. Check the valve shim and the valve seat on both functional areas, i.e. the narrow surface at the flat, upper side, the inside of the O-ring groove together with the area of the conical seat, near the inner edge – the contact area for the male valve!

1.4.11 Assembly of the Female Docking Valve

NOTICE	<p>This operation requires, the following special tools and preparations:</p> <ul style="list-style-type: none"> • Torque wrench • Special high temperature grease for the sealings
---------------	--

- a) First make sure, that the shim (25) is in place and then mount the spring (26).
- b) Put the valve shim (27) in place. The valve shim shall be centred inside the spring (26).
- c) Place the lightly greased O-ring (28) onto the recess of the valve seat (29) and mount the valve seat into the guiding pin (24). The guiding pin (24) together with the retaining flange (30) and the valve seat (29) are put symmetrical onto the valve shim (27). By compressing the spring (26), the valve seat (29) is pressed into the center ring recess of the packing housing (1). **Note:** *Be careful, not to damage the O-ring (28), when inserting the valve seat (29)!*
- d) Now the 4 countersunk screws (31) can be tightened, crosswise, to the torque of 5 Nm.
Male docking valve: refer to “Doser - Docking Station” Maintenance Manual form 45532694.

1.5 Reassemble the dosing unit

Note: Always use a calibrated dynamometric wrench and always tighten crosswise. All lubrication hoses must be replaced. Using old hoses will result in leakage.

1.5.1 To Reassemble the Inlet Valve Complete. S type

- a) Fit the two O-rings (6 on T2X-05-510-IR).
- b) Insert the lightly greased O-ring (6) in its groove. Assemble the coupling (24 on T2X-01-803-IR/-852-IR) with a new Dowty seal (25 on T2X-01-803-IR/852-IR).
- c) Refit the heating pins (3) and tighten the grub screws (8).
- d) Assemble the new inlet valve (2 on T2X-05-510-IR) to the connector – inlet valve (1) with the two screws (9). Torque 11 Nm.

1.5.2 Reassemble Packing Housing, S- and R-type

Drawings/Component lists:

- | | | |
|-------------------|-------------|---------------|
| • Inlet valve | S80/250 | T2X-05-510-IR |
| Packing housing | | T2X-05-514-IR |
| • Packing housing | R80/250 ATC | T2X-05-515-IR |

- a) **Only S-type:** Put back the Inlet valve complete into the packing housing while fitting the two washers (13 on T2X-05-514-IR) into their holes. Tighten the two screws (7 on T2X-05-510-IR) (Torque 11 Nm), while fit the two cylindrical pins (10 on T2X-05-510-IR) into the corresponding holes of the packing housing. Tighten the two screws (11 on T2X-05-514-IR). Torque 6 Nm
- b) **Only S-type:** Mount and tighten screws (11 on T2X-05-514-IR) and (7 on T2X-05-510-IR).
- c) Mount the couplings (5) on the packing housing and insert new oil hoses.
- d) Insert the O-ring and Stepseal® (4 on T2X-05-514-IR) in to the packing housing (1 on T2X-05-514-IR), pay special attention to the direction of the Stepseal® (see drawing T2X-05-510-IR).
- e) Insert the guide rings (3 on T2X-05-514-IR) and the O-ring (2 on T2X-05-514-IR).

1.5.3 To Reassemble the Doser Unit

Drawings/Component lists:

• Packing housing	S80/250	T2X-05-514-IR
• Packing housing	R80/250 ATC	T2X-05-515-IR
• Dosing unit	x80	T2X-05-509-IR
• Dosing unit	x250	T2X-05-520-IR

This operation requires, the following special tools and preparations:

- High temperature grease.
- Screw locking liquid - Loctite 270

NOTICE

Follow given advices for assembling and treatment of the sealings. The sealings can otherwise easily be destroyed. Never recycle any old parts.

First install the seals and the guiding rings (2, 3, and 4) inside the packing housing (1).

- The Stepseal® (4) has to be mounted with the step towards the doser chamber (see drawing T2X-05-514-IR/-515-IR). **Note:** Heat Stepseal® (4) slightly before mounting. Then take the Stepseal® and form it with three fingers into the shape of a „heart“. **Be careful; do not bend it too sharply.** Now it is possible to move it into the groove and press the deformed part of the ring back to a round shape. Apply a good layer of grease. Be careful when inserting the piston
- Insert the two lightly greased guiding-rings (3), with the joints at a 180° graduation.
- Use grease to glue the O-ring (2) in the groove at the bottom of the packing housing (1)

Now the change of the doser unit seals of the T2X doser is complete.

- Assemble the remaining parts in the opposite order, see 1.4.1. Observe that the two electrical sockets (22) on the packing housing to the inlet valve (S-type) and the gun are correctly connected. See labelling and list of electrical contacts in chapter 1.10.5

1.6 To Dismantle the Drive Unit

Drawings/Component lists:

- | | | |
|-------------------|------|---------------|
| • Spindle package | x80 | T2X-05-504-IR |
| Driving package | | T2X-05-505-IR |
| Driving unit | | T2X-05-561-IR |
| • Driving package | x250 | T2X-05-517-IR |
| Spindle package | | T2X-05-518-IR |
| Driving unit | | T2X-05-560-IR |

This operation requires, the following special tools and preparations:

NOTICE

- A hot air gun.
- A special manufactured spindle holder, T2250-17-013-IR.
- Sleeve 4-KM5 for the axial nut.
- Stud extractor for the tensioning bolts.

After the doser unit is parted from the drive unit, described in 1.3, does the following:

- a) Unscrew the four screws (20 on Doser complete) and remove upper handle (11).
- b) Unscrew 8 screws (4 on T2X-05-560-IR/-561-IR) and remove adapter flange complete (1).
- c) Remove side indicator glass (5 on T2X-05-508-IR) and then remove spindle profile complete (4 on the doser complete).
- d) When changing the guidance for the spindle nut (2 on T2X-05-508-IR/-519-IR): Loosen and unscrew the three screws (4 on T2X-05-508-IR/-519-IR).
- e) Unscrew the 8 tensioning bolts (4 on T2X-05-505-IR/-517-IR).
- f) Unscrew the screws (16 on T2X-05-505-IR/-517-IR) and remove servo motor complete (8 on T2X-05-505-IR/-517-IR). Timing belt (10 on T2X-05-505-IR/-517-IR) will come loose with the motor.
- g) Fit the spindle holder (T2250-17-013-IR) on the spindle screw (7) and hold it gently.
- h) Unscrew the axial nut (11), using the 4-KM5 sleeve. The gear sprocket (5) can now be removed.
- i) When the upper fitting key is removed, the complete spindle package (7) comes loose, together with the bearing holder (3) and the axial bearing (9). The axial bearing can now be exchanged.
- j) Dismount the conical roller bearing (19) and the radial ball bearing (20).
- k) Unscrew the 4 screws (15) to exchange the bearing house (2).

NOTICE

Never unscrew the spindle nut out from the spindle, as this will destroy the spindle nut. Parts will fall out, and it is very difficult to put it right again. The spindle and its nut are manufactured in as one unit and shall only be regarded as one unit!

1.7 To Reassemble the Drive Unit

Drawings/Component lists:

• Spindle package	x80	T2X-05-504-IR
Driving package		T2X-05-505-IR
Driving unit		T2X-05-561-IR
• Driving package	x250	T2X-05-517-IR
Spindle package		T2X-05-518-IR
Driving unit		T2X-05-560-IR

This operation requires, the following special tools and preparations:

NOTICE

- A calibrated torque wrench
- High temperature grease.
- A special manufactured spindle holder, T2250-17-013-IR.
- Stud extractor for the tensioning bolts

Note: Grease all threads and screw-heads.

- a) Mount the bearing house (2) and tighten the four screws (15) on the driving package. Tightening torque 10 Nm.
- b) Mount the conical roller bearing (19) and the radial roller bearing (20) in the bearing house.
- c) Mount the lower fitting key (12) and the bearing holder (3) on the spindle package. Replace the axial bearing (9) into the bearing holder. The bearing race marked WS4068 is mounted in the bearing holder (3). The bearing race marked GS4068 is mounted in the bearing house (2).
- d) The spindle package can now be fitted back by putting the upper fitting key (12) back.
- e) Carefully put the spindle package into the spindle holder (T2250-17-013-IR). Now the axial bearing can be filled with high temperature grease ($\geq 160^{\circ}\text{C}$) through the grease nipple (4 on T2X-05-503-IR). Pump grease through the grease nipple (first time about 5-7 strokes with a standard grease gun), until the grease appears through the conical roller bearing. The spindle nut is filled in the same way through the grease nipple (6 on T2X-05-504-IR) until the grease appears through the spindle threads (about 1.5 strokes with a standard grease gun).
- f) Mount the gear sprocket (5) and secures it with a new axial nut (11). Use a 4-KM5 sleeve and tighten by hand force only. Loosen the nut carefully (approximately 15°), causing a small gap. Ensure that the bearing package is not tightened to hard. **NOTE!** This gap must disappear when the axial nut is tightened. Lock the axial nut (11) in its position with the two grub screws.
- g) Refit servo motor complete (8) and timing belt (10) and mount the screws (16).
- h) Refit the 8 tensioning bolts (4). Torque 24 Nm with greased threads and screw-heads.
Note: Always use a calibrated dynamometric wrench.
- i) Assemble the guidance for the spindle nut (2 on T2X-05-508-IR/-519-IR). Tighten the three screws (4 on T2X-05-508-IR/-519-IR).
- j) Refit adapter flange complete (2 T2X-05-560-IR/-561-IR) and tighten the 8 screws (4 on T2X-05-560-IR/-561-IR).
- k) Place the drive unit upside down, resting on the tool changer. Fit the two cylindrical pins (3 on T2X-05-508) of the spindle profile complete into the corresponding holes in the adapter flange complete (2). Also see to that the guide rail (2 on T2X-05-508-IR) fits into the corresponding gap on the spindle slider (2 on T2X-05-504-IR). Mount the indicator glass (5 on T2X-05-508-IR/-519-IR).
- l) Mount upper handle (11 on the doser complete) and tighten the four screws (20).

NOTICE

If a new bearing is mounted, the recommendation is to “run in” the drive unit. This is be done by using the function “Break in” in the control system. This function must be run for approximately one hour.

Ensure that the bearings are not tightened too hard! The bearings are mounted so that no gap occurs. The bearings must run without friction.

This completes the exchange of the bearings in the drive unit to the INGERSOLL RAND T2X doser!

1.8 To Reassemble the Doser Unit and the Drive Unit

Drawings/Component lists:

- Doser complete

S80	T2X-01-803-IR,
S250	T2X-01-852-IR,
R80 ATC	T2X-01-903-IR or
R250 ATC	T2X-01-951-IR
- a) When assembling the dosing unit (1) onto the drive unit (3). Fit the two cylindrical pins (3 on T2X-05-508-IR) of the spindle profile into the corresponding holes of the packing housing. The 8 round bars should fit into the corresponding holes of the packing housing.
- b) Mount and tighten the 8 screws (21). Torque 24 Nm with lightly oiled threads and screw-heads.
Note: Always use a calibrated torque wrench.
- c) Put back the profile doser chamber (9), the bottom cover (10) and tighten the two screws (20) at the bottom of the doser.

Put back the lower handle (12), tighten its 4 screws (18, 20). Close the two doors (5 and 27),

1.9 To Exchange Heating Pins/Manchett and Temperature Sensor

General instructions for mounting and dismantling the heating pins are noted in chapter 13.
List of electrical contacts is described in chapter 1.10.5

1.9.1 To Exchange the Heating Pins in the Packing Housing, S type

- Drawings/Component lists:

T2X-05-510-IR
T2X-05-514-IR
- a) Dismantle in the same way as described in section 1.6.1.
- b) Loosen the grub screws (8) holding the heating pins (3).
- c) Pull out the heating pins (3). If needed, use a tool to carefully push them out from the other direction.
- d) Release the cables from the contact (19 on T2X-05-514-IR)
- e) Assemble in the reverse order. Always use aluminium paste on heating pins and PT100.

1.9.2 To Exchange the Heating Pins in the Packing Housing, R type

- Drawings/Component lists: Rxxx ATC T2X-05-515-IR

- a) Loosen the grub screws (8) holding the heating pins (45).
- b) Pull out the heating pins. If needed, use a tool to carefully push them out from the other direction.
- c) Release the cables from the contact (19)
- d) Assemble in the reverse order. Always use aluminium paste on heating pins and PT100.

1.9.3 To Exchange the Heating Pins in the Doser Chamber

- Drawings/Component lists: x80 T2X-05-509-IR
x250 T2X-05-520-IR

- a) Loosen the grub screw (13) holding the heating pin (16).
- b) Pull out the heating pin. If needed, use a tool to carefully push it out from the other direction.
- c) Release the cables from the contact (17)
- d) Assemble in the reverse order

1.9.4 To Exchange the Heating Manchett

- Drawings/Component lists: x80 T2X-05-509-IR
x250 T2X-05-520-IR

- a) Unscrew the screw (two screws on x250) on the heating manchett (8). Open the hinge and remove.
- b) Release the cables from the contact (17)
- c) Assemble in the reverse order. Ensure that the cables of the heating jacket are not pushed onto the doser body or that the jacket is not too far up- each of these will cause a short circuit.

1.9.5 To Exchange the Temperature Sensor Pt100

- Drawings/Component lists: x80 T2X-05-509-IR
x250 T2X-05-520-IR

- a) Loosen the grub screw (13) for the temperature sensor (15).
- b) Pull out the temperature sensor.
- c) Release the cables from the contact (17)
- d) Assemble in the reverse order.

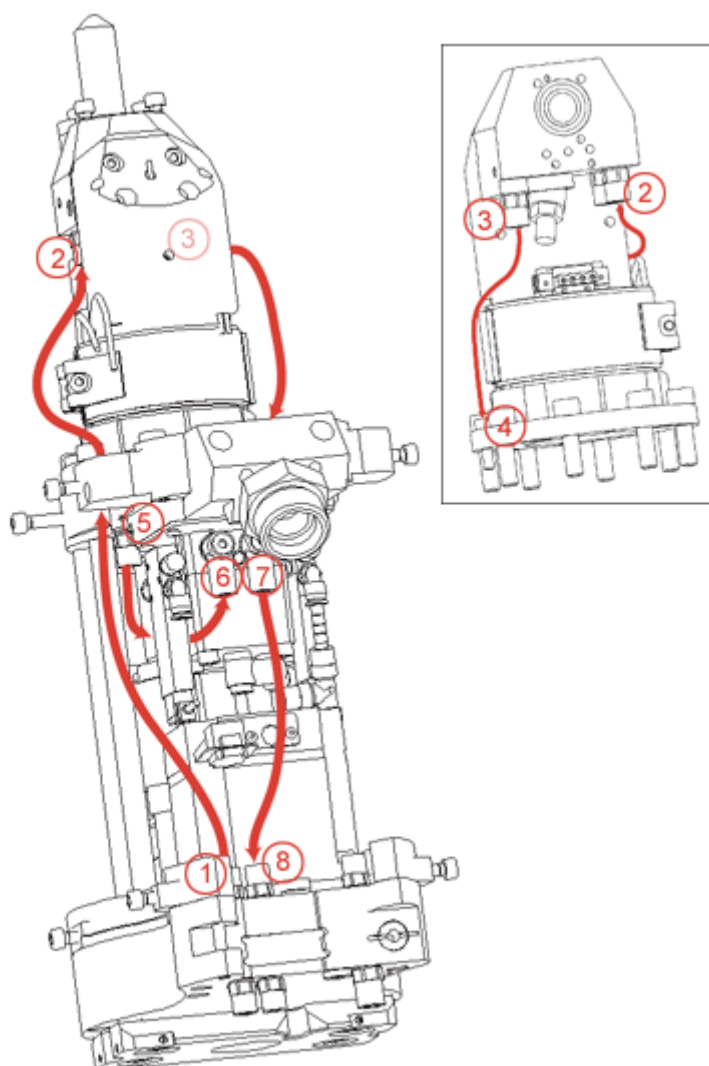
1.10 Hydraulics, Pneumatics and Electrical Contacts in the Doser

Always replace the hoses each time. Failure to do so will cause in leakage.

1.10.1 Oil Hoses in the Sxxx Doser

- Drawing/Component list:

S80	T2X-01-803-IR
S250	T2X-01-850-IR



The S-doser oil hoses are connected according to the picture above, for other references and doser part names see the documentation drawings.

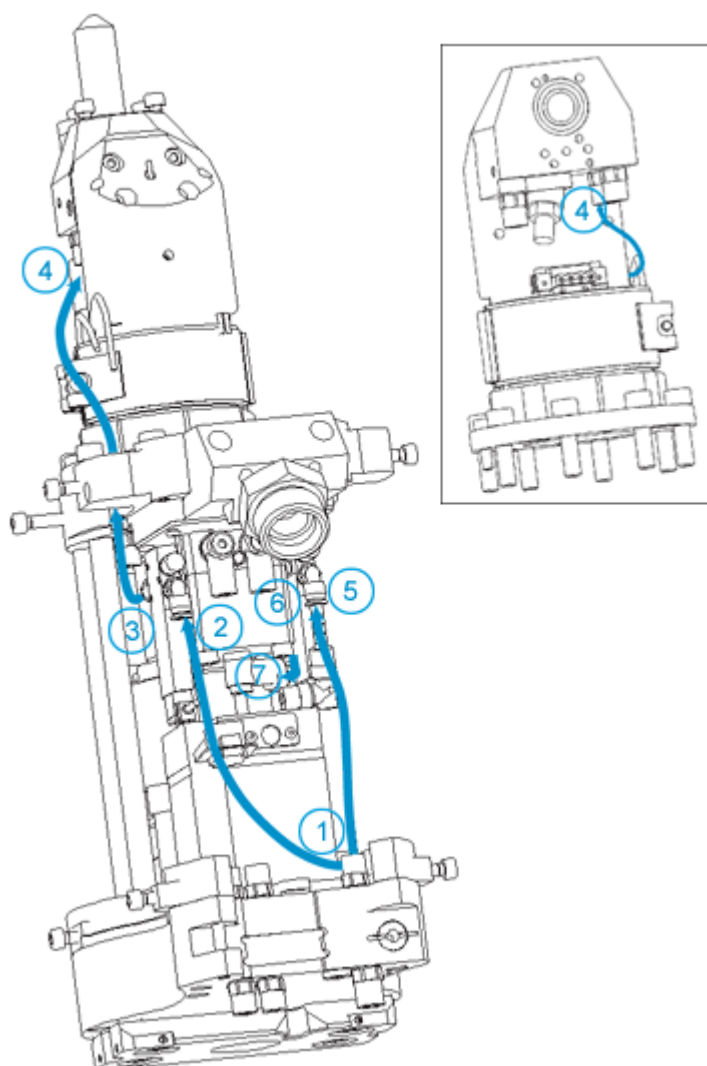
	From		To
(1)	Inlet adapter flange complete	(2)	Incoming gun connection bracket
(3)	Outgoing gun connection bracket	(4)	Coupling packing housing complete
(5)	Coupling packing housing complete	(6)	Incoming inlet valve
(7)	Outgoing inlet valve	(8)	Outlet adapter flange complete

1.10.2 Pneumatic hoses in the Sxxx doser

- Drawing/Component list:

S80
S250

T2X-01-803-IR
T2X-01-852-IR



The S-doser pneumatic hoses are connected according to the picture above, for other references and doser part names see the documentation drawings.

Gun:

	From		To
(1)	Inlet adapter flange complete	(2)	Gun pneumatics valve, <i>port 1</i>
(3)	Gun pneumatics valve, <i>port 2</i>	(4)	Inlet gun connection bracket

Inlet valve:

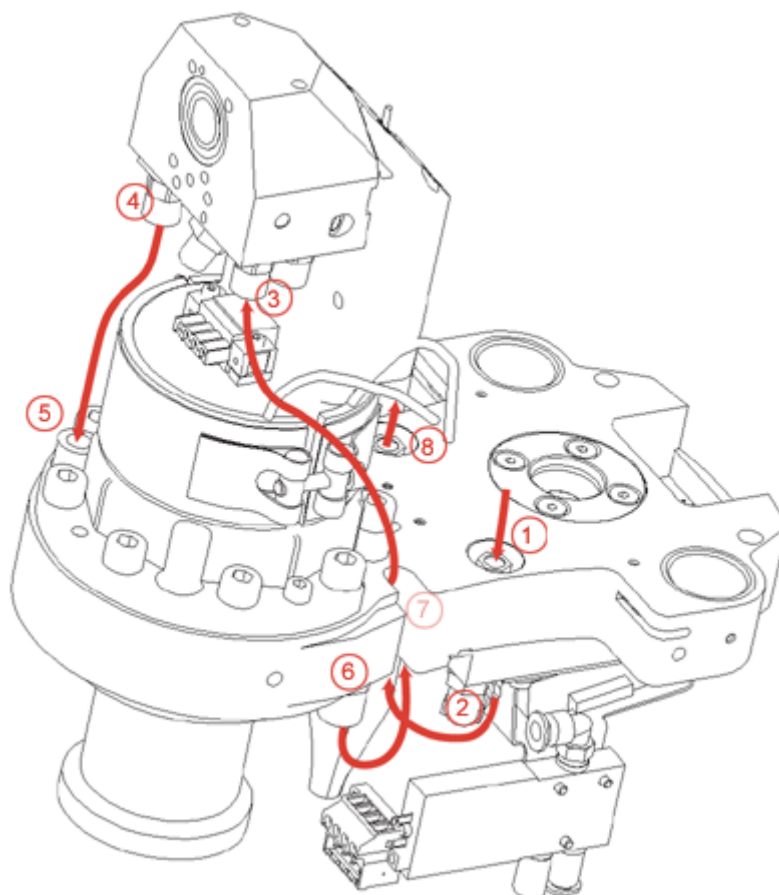
	From		To
(1)	Inlet adapter flange complete	(5)	Inlet valve pneumatics valve, <i>port 1</i>
(6)	Inlet valve pneumatics valve, <i>port 2</i>	(7)	Inlet valve

1.10.3 Oil Hoses in the Rxxx doser

- Drawing/Component list:

R80
R250

T2X-01-903-IR
T2X-01-951-IR



The R-doser oil hoses are connected according to the picture above, for other references and doser part names see the documentation drawings.

	From		To
(1)	Inlet from docking station	(2)	Outgoing packing housing complete
(3)	Incoming gun connection bracket	(4)	Outgoing gun connection bracket
(5)	Coupling packing housing complete	(6)	Coupling packing housing complete
(7)	Incoming packing housing complete	(8)	Outlet to docking station

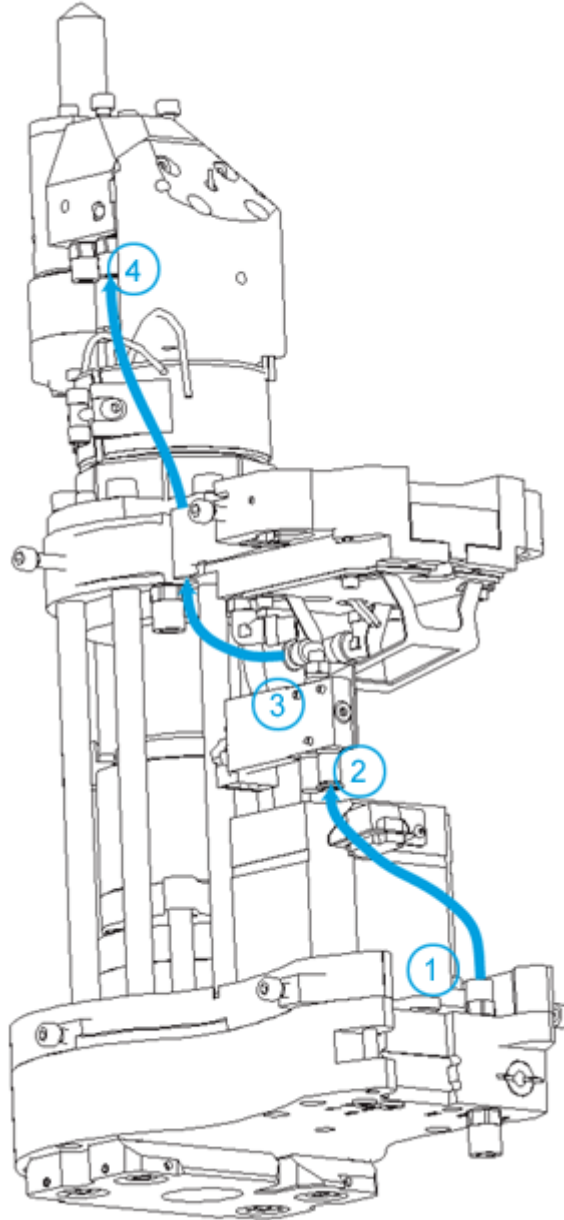
For the hydraulics of the docking station, refer to “Doser - Docking Station” Maintenance Manual form 45532694.

1.10.4 Pneumatic Hoses in the Rxxx doser

- Drawing/Component list:

R80
R250

T2X-01-903-IR
T2X-01-951-IR



The R-doser pneumatic hoses are connected according to the picture above, for other references and doser part names see the documentation drawings.

Gun:

	From		To
(1)	Inlet adapter flange complete	(2)	Gun pneumatics valve, <i>port 1</i>
(3)	Gun pneumatics valve, <i>port 2</i>	(4)	Inlet gun connection bracket

1.10.5 Electrical-contacts in the doser: S80/S250

Length in mm = cable length

From pos.	Name	T2X-no.	Drawing:	To pos.	Name	T2X-no.	Drawing	Comment
	Temperature sensor PT100 doser chamber	T2000-SC-014-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 1	WH - 2 RD - 11	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 1	S/R doser Length: 490mm
	Heating manchett /doser chamber	T2X-13-001-IR or 13-002-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 4	WH - 7 WH -15	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 4	S/R doser Length: 350mm
	Heating pin 200W /doser chamber	T2X-SE-002-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 4	WH/BU - 24 WH - 34	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 4	S/R doser Length: 320mm
1	Electrical socket /doser chamber XS15	T2X-SF-002-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 5	WH - 35	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 5	S/R doser Length: 450mm
2				WH - 25				
3				WH - 20				
4	Electrical socket /doser chamber XS15	T2X-SF-002-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 3	RD - 29	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 3	S/R doser Length: 450mm
	Heating pin 200W /gun	T2X-SE-002-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 5	WH - 1 WH/BU - 2	Weidmüller contact XP15 /gun	T2X-SF-001-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 5	S/R doser Length: 65mm
	Temperature sensor PT100 /gun	T2000-SC-014-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 3	WH - 3 RD - 4	Weidmüller contact XP15 /gun	T2X-SF-001-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 3	S/R doser Length: 80mm
	Pressure transducer /connection bracket for gun	T2000-SC-016-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 508. 1	RD - 21 BK - 12 Grounded	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 508. 1	S/R doser Length: 430mm
	Heating pin / inlet valve	T2X-SE-001-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 3	WH - 8 WH/BU - 16	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 3	R doser Length: 230mm S doser Length:
	Valve/Gun	T2X-SP-099-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 522. 8	BK - 4 BK - 13	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 522. 8	S/R doser Length: 190mm
	Valve / inlet valve	T2X-SP-099-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 522. 8	BK - 31 BK - 22	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 522. 8	S doser Length: 190mm
9	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, Sheet 302. 2	WH - 18	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, Sheet 302. 2	S doser Jumper: 50mm
27	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, Sheet 302. 5	WH - 36	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, Sheet 302. 5	S doser Jumper: 50mm
26	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, Sheet 302. 6	GN/YE - chassis			T2X-20-028-IR, Sheet 302. 6	S/R doser Length: 50mm

1.10.6 EI-kontakter i doser: R80/R250

Length in mm = Cable

From pos.	Name	T2X-nr.	Se drawing:	Till (nr)	Name	T2X-nr.	Se drawing:	Comments
	Pt100-givare /doser chamber	T2000-SC-014-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 1	WH – 2 RD - 11	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 1	S/R doser Length: 630mm
	heating manschett /doser chamber	T2X-13-001-IR or 13-002-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 4	WH – 7 WH -15	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 4	S/R doser Length: 400mm
	Heating pin 200W /doser chamber	T2X-SE-002-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 4	WH/BU - 24 WH – 34	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 4	S/R doser Length: 520mm
1	Weidmüllerkontakt XS15 /doser chamber	T2X-SF-002-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 5	WH – 35 WH - 25	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 5	S/R doser Length: 550mm
3	Weidmüllerkontakt XS15 /doser chamber	T2X-SF-002-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 3	WH – 20 RD - 29	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 3	S/R doser Length: 550mm
	Heating pin 200W /pistol	T2X-SE-002-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 5	WH – 1 WH/BU - 2	Weidmüllerkontakt XP15 /pistol	T2X-SF-001-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 5	S/R doser Length: 65mm
	Pt100-givare /pistol	T2000-SC-014-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 3	WH – 3 RD - 4	Weidmüllerkontakt XP15 /pistol	T2X-SF-001-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 509. 3	S/R doser Length: 80mm
	Pressure sensor/Bracket for gun	T2000-SC-016-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 508. 1	WH – 8 WH/BU - 16	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 508. 1	S/R doser Length: 560mm
	Heating pin /inlet valve	T2X-SE-001-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 3	BK – 4 BK - 13	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 302. 3	R doser Length: 230mm S doser Length:
	Valve /pistol	T2X-SP-099-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 522. 8	BK – 31 BK – 22	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, T2X-20-029-IR Sheet 522. 8	S/R doser Length: 190mm
14	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, Sheet 302. 2	WH – 36	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, Sheet 302. 2	Length: 50mm
21	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, Sheet 302. 5	GN/YE – chassis	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, Sheet 302. 5	Length : 50mm
26	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-028-IR, Sheet 302. 6	GN/YE – chassis			T2X-20-028-IR, Sheet 302. 6	S/R doser Length: 50mm
A1	1WE1K/ Relay T2X R80	T2X-SB-001-IR		WH – 30	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 503. 0	Length: 120mm
A2				Diode - 30		T2X-SB-002		Diode: 60mm
12				WH – 22	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 503. 0	Length: 120mm
11				WH – 18	XP62/ 19 poles contact	T2X-SF-005	T2X-20-029-IR, Sheet 302. 2	Length: 120mm
14				WH – 9	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 302. 2	Length: 120mm
22				WH – 18	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 302. 2	Length: 120mm
21				WH – 16	XP62/ 19 poles contact	T2X-SF-005	T2X-20-029-IR, Sheet 302. 5	Length: 120mm
24				WH – 36	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 302. 5	Length: 120mm
17	XP62/ 19 poles contact	T2X-SB-005-IR	T2X-20-029-IR, Sheet 302. 1	WH – 27	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 302. 5	Length: 120mm
Ground	XP62/ 19 poles contact	T2X-SB-005-IR	T2X-20-029-IR, Sheet 302. 1	WH – 17	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 302. 3	Length: 70mm
30	XP6/ 36 poles contact "Diode"	T2X-SF-008-IR	T2X-20-029-IR, Sheet 503. 0	GN/YE - Chassis			T2X-20-029-IR, Sheet 302. 6	Length: 70mm
3	XP62/ 19 poles contact	T2X-SB-005-IR	T2X-20-029-IR, Sheet 508. 2	Diode – 4 Jumper 4 -14	XP62/ 19 poles contact	T2X-SF-005	T2X-20-029-IR, Sheet 503. 0	Jumper: 40mm
12	XP62/ 19 poles contact	T2X-SB-005-IR	T2X-20-029-IR, Sheet 509. 2	BK – 3	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 508. 1	Length: 70mm
13	XP62/ 19 poles contact	T2X-SB-005-IR	T2X-20-029-IR, Sheet 509. 2	WH – 1	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 509. 2	Length: 70mm
10	XP62/ 19 poles contact	T2X-SB-005-IR	T2X-20-029-IR, Sheet 509. 4	RD – 10	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 509. 2	Length: 70mm
11	XP62/ 19 poles contact	T2X-SB-005-IR	T2X-20-029-IR, Sheet 509. 4	WH – 19	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 509. 4	Length: 70mm
				RD – 28	XP6/ 36 poles contact	T2X-SF-008-IR	T2X-20-029-IR, Sheet 509. 4	Length: 70mm

Notes:

www.irtools.com

© 2007 **Ingersoll Rand** Company

