WALKER FILTRATION

PRODRY

Compressed Air Desiccant Dryer Range

Innovative design. Exceptional engineering. Improved performance

Installation, Operating and Maintenance Manual

Models PD0046 to PD0360

EN

The product to which this manual refers must not be supplied, installed, used, operated or serviced until the contents of the manual has been fully read and understood by all relevant personnel.

Please complete the following information at the time of installation
found on the rating label on the upper right hand side of dryer

Model Number

Serial Number

Regulated Inlet Pressure

Filtration present with Dryer

Inlet Flow of Dryer

Supply Voltage

When contacting Walker Filtration regarding this product, please have the above stated information at hand to speed up your query.

WALKER FILTRATION

Contents

Safety

The following safety guidelines must be strictly observed.

- *Leave this manual at the place of installation of the product.*
- *It is essential that only Walker Filtration or it's appointed agents carry out maintenance and servicing work.*

Users, maintenance and servicing personnel must be familiar with:

- *Accident prevention regulations.*
- *Safety information (general and specific to the unit).*
- *Safety devices of the unit.*
- *Measures to be taken in case of an emergency.*
- *Allow only suitably trained persons to be involved with installation, start-up, operation, servicing and maintenance of the product.*
- *It is the responsibility of the installer to ensure that the pipe work to and from the dryer is suitable, in accordance with applicable legislation and subject to inspection and testing prior to being put into service. All piping must be adequately supported.*
- *Before carrying out any maintenance or servicing work the unit must be taken out of operation. Users and others will be exposed to risk if work is carried out whilst the unit is running. This means electrical disconnection plus isolation from the compressed air supply and full depressurisation.*
- *Only trained and competent persons familiar with the electrical requirements of the unit as laid out in this manual and electrical safety rules and regulations should be allowed to carry out work on the electrical components and power supply to the unit.*
- *When carrying out any work on the unit, use only correctly sized appropriate tools in good condition.*
- *Only use original spare parts and accessories from the manufacturer. There is no guarantee that non-original parts have been designed and manufactured to meet the safety and operational requirements of the unit. Walker Filtration assume no liability for any equipment malfunction resulting from the use of non-approved parts.*
- *If carrying out installation work above head height, use suitable and safe working platforms or other means of working access.*
- *Do not make any constructional changes to the product. Any changes or modifications may only be carried out by the manufacturer, Walker Filtration.*
- *Any faults or defects that could affect safety must be put right fully before using the unit.*
- *Used items and materials must be disposed of in the correct manner, complying with local laws and regulations, in particular the desiccant cartridge.*

Figure 1.1: Definition of symbols

Risk of Danger

Risk of Electric Shock

Risk of High Pressure

Warning

Equipment Protected by Double Insulation

Important Note

Manual Handling

As with all areas of the workplace, Health and Safety is of great importance and must be given due care and attention. While working with this equipment, manual handling regulations must be considered and adhered to.

Full advice, support and guidance should be detailed in your Health and Safety Policy and Manual Handling guide, please take the time to familiarise yourself with these documents.

The Manual Handling Operations Regulations apply to a wide range of manual handling activities, including lifting, lowering, pushing, pulling or carrying.

We ask every person handling this product to take the responsibility for their own Health and Safety and the Health and Safety of others around them. If you feel there is a significant risk, you must take steps to either remove the risk altogether, or reduce the risk prior to carrying out the activity. If you need further support or guidance with this, please consult your line manager or the HR Department.

There are safe systems of work and correct procedures in relation to manual handling, please consult these documents available within the workplace.

We ask everyone handling this product to:

- Follow appropriate systems of work laid down for their safety.
- Make proper use of any equipment provided for their safety.
- Inform the company if they identify hazardous handling activities.
- Take care to ensure that their activities do not put others at risk.

If in doubt, please seek further advice and ensure you always follow the correct procedures and guidance.

For more information please see our Health and Safety manual attached.

A 3 amp fuse should be fitted as per the wiring diagram.

General Description

This manual is valid for the following dryer models
PD0046
PD0056
PD0075
PD0090
PD0110
PD0150
PD0180
PD0220
PD0300
PD0360

Function of the Dryer

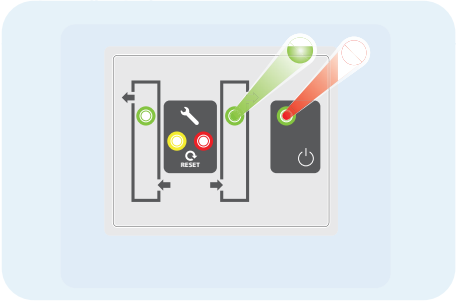
PRODRY is designed to provide a smooth, controlled and uninterrupted delivery of dry compressed air. Wet air passes through a pre-filter and travels down to the bottom valve assembly. The air is then fed through the bottom of the desiccant bed and moves through the high performance desiccant until it becomes dry. On exit from the desiccant cartridge, the air is passed through the outlet valve assembly.

During this process, the dryer control system cycles the process air between the two desiccant towers. While one tower is on stream removing water vapour, the other is being carefully depressurised in preparation for regeneration. The desiccant bed is regenerated by expanding a small amount of dry process air, or purge air, through the saturated desiccant.

Purge air passes to atmosphere through the silencer, which is fitted to an exhaust valve. The tower is then repressurised, with the control system assuring each tower is at full operational pressure prior to changeover.

This ensures a reliable and efficient operation. The air stream is switched and the cycle repeats on a continuous basis.

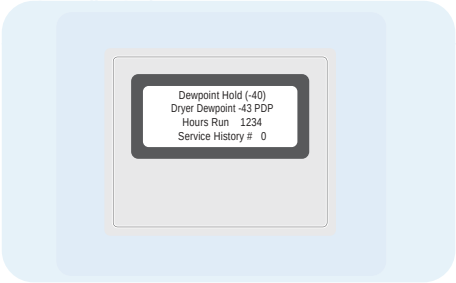
Figure 2.1: LED Controller



Features:

- *Supplied as standard controller*
- *Microcontroller based design*
- *Available in 115V or 230VAC*
- *Energy Management Feature (EM)*
- *Alarm Outputs*

Figure 2.2: DMC Controller



Features:

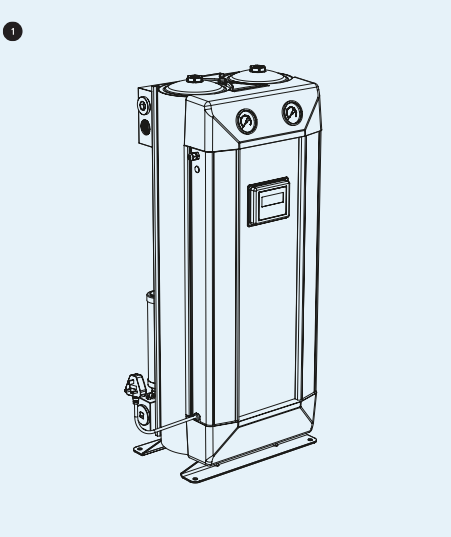
- *(Optional) full feature controller*
- *PLC based design*
- *24VDC only*
- *Includes Hygrometer*
- *Energy Management Feature (EM)*
- *Alarm Outputs*
- *Selectable output dewpoint levels (-20° C, -40° C, -74° C)*
- *Engages Dewpoint Hold during periods of low demand*
- *resulting in energy savings up to 81%.*

Package Contents

The dryer is delivered in protective packaging. Take care when transporting, loading and unloading the unit. The package contains the following items (refer to figure 2.3):

1. *Dryer unit*
2. *Instruction manual (including certificate of conformity)*
3. *Power connector*
4. *Purge Kit*
5. *Water Separator*

Figure 2.3: Package contents (All dryer models)



Instruction manual
(including certificate of conformity)

Note: All dryers come equipped with eyebolts to facilitate removing the dryer from it's crate. Simplex dryers include one eyebolt and duplex models include two.

Note: All dryers include spare orifice components to allow the dryer to be modified from the factory 7 barg (100 psig) pressure setting to any pressure within the specified operating range. The internal purge valves within models PD0046 & PD0056 can be modified to suit all pressure settings whilst models PD0075 to PD0360 require additional components (which are supplied with the dryer).

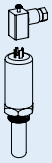
Water Separator included as standard

Figure 2.4: Optional Items 24V DMC Dryer

Figure 2.5: Optional Items for DMC Dryer

6 Hygrometer Sample Block
(Installed into top valve block)
Supplied with product ready to install

7 Hygrometer



8 Pre-filter drain valve
(24V DMC Dryer only)

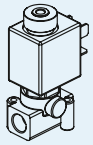


Figure 2.6: Highly Advised

9 Pre Filter recommended:
X1 Optional
XA Critical

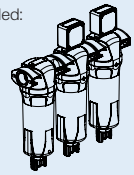
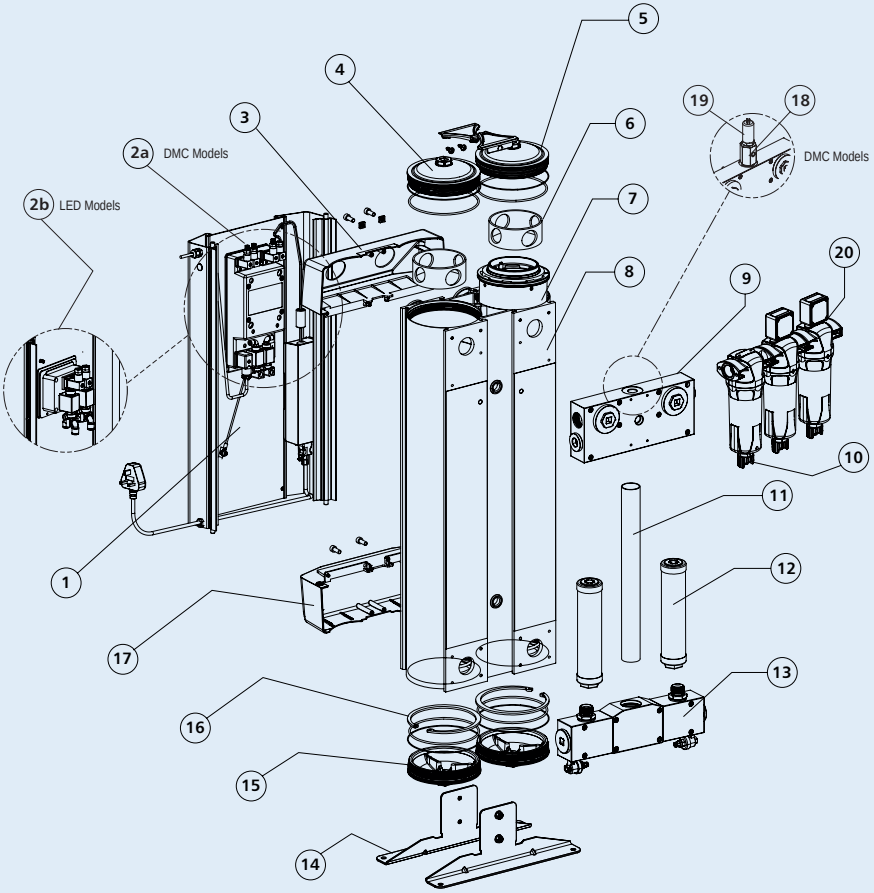


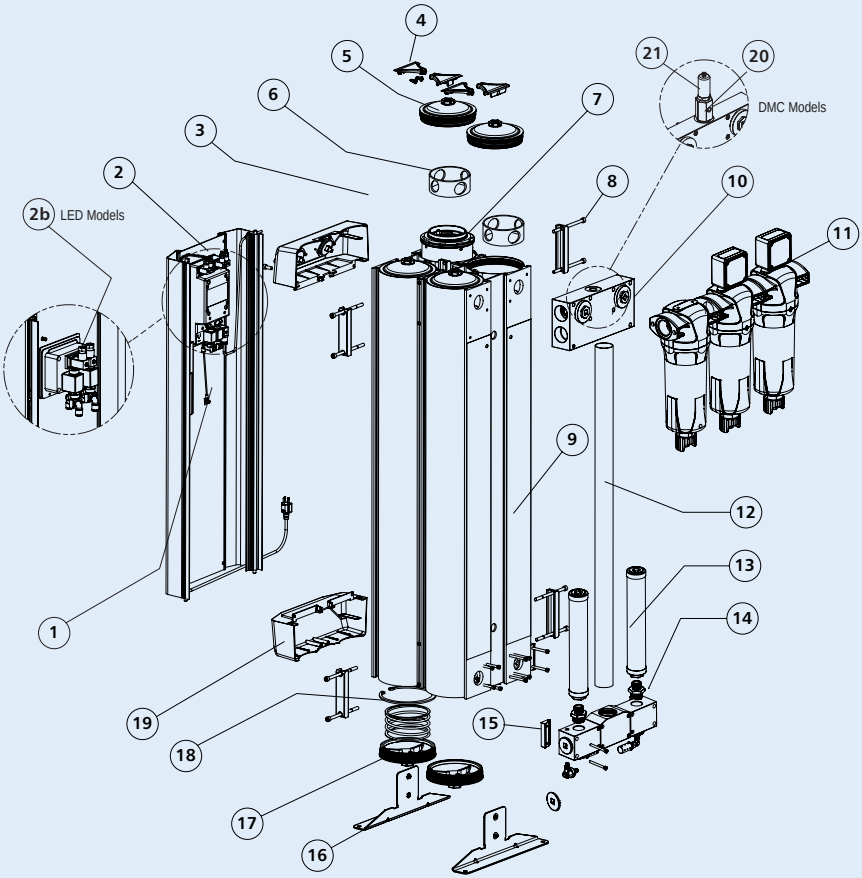
Figure 2.7: Primary Components (Simplex Models PD0046 - PD0180)



1. Front panel
2a. LED controller
2b. DMC controller
3. Top trim cover
4. Extrusion cover
5. Top extrusion tower plug
6. Spacer
7. Desiccant cartridge
8. Extrusion tower
9. Top manifold assembly
10. Water Separator (Supplied as standard)
11. Downpipe
12. Exhaust silencer
13. Bottom manifold assembly
14. Dryer stand
15. Bottom extrusion tower plug
16. Tower circlip
17. Bottom trim cover
18. Hygrometer sample block*
19. Hygrometer*
20. Pre-filter (Optional)

* DMC models only

Figure 2.8: Primary Components (Duplex Models PD0220 - PD0360)



1. Front panel
2a. LED controller
2b. DMC controller
3. Top trim cover
4. Extrusion cover
5. Top extrusion tower plug
6. Spacer
7. Desiccant cartridge
8. Extrusion link
9. Extrusion tower
10. Top manifold assembly
11. Water Separator (Supplied as standard)
12. Downpipe
13. Exhaust silencer
14. Bottom manifold assembly
15. Bottom manifold support clip
16. Dryer stand
17. Bottom extrusion tower plug
18. Tower circlip
19. Bottom trim cover
20. Hygrometer sample block*
21. Hygrometer*

Technical Data

Environmental Conditions

All dryers are designed to be safe under the following conditions:

- *Indoor use*
- *Altitude up to 2,000m*
- *Ambient temperature 5° C (41° F) to 50° C (122° F)*
- *Mains supply voltage fluctuations not to exceed +/- 10% of nominal*

For operation extended from the above conditions, please contact Walker Filtration.

Excessive vibrations from external sources may cause failure of this product.

Rated Conditions

Measurement	Performance	
Inlet pressure	7 barg	101.5 psig
Inlet temperature	35° C	95° F
Relative humidity of air at inlet	95%	
Pressure dewpoint, standard version	-40° C	-40° F

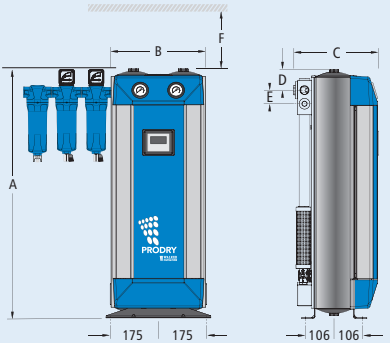
Specified Limitation for Operation

Measurement	Performance	
Maximum inlet air pressure	13 barg	188.5 psig
Minimum inlet air pressure	4 barg	58 psig
Maximum ambient air temperature	50° C	122° F
Minimum ambient air temperature	5° C	41° F
Pressure dewpoint (LED & DMC Controller)	-20° C to -74° C	-4° F to -100° F
Electrical supply voltage (LED Controller)	115 VAC or 230 VAC	
Electrical supply voltage (DMC Controller)	24 VDC	

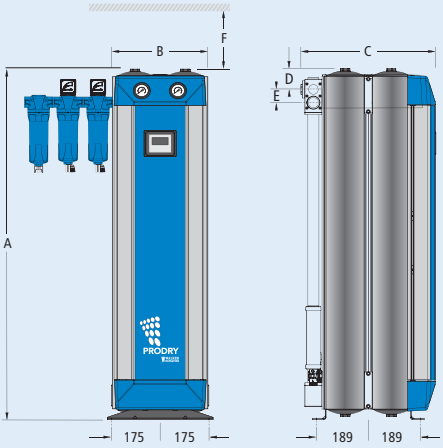
Dryer model	Dryer Pipe size	Inlet flow rate*		Dimensions mm (inches)						Weight Kg	No. of cartridges	Recommended Filter model	Filter pipe size
		Nm³/hr	SCFM	A	B	C	D	E	F				
PD0046	1	77	45	655 (25.8)	380 (15)	310 (12.2)	76 (3)	50 (2)	600 (23.6)	46	2	**A3051XA**	½
PD0056	1	94	55	735 (29)	380 (15)	310 (12.2)	76 (3)	50 (2)	700 (27.6)	51	2	**A3052XA**	½
PD0075	1	128	75	905 (35.6)	380 (15)	310 (12.2)	76 (3)	50 (2)	850 (33.5)	62	2	**A3071XA**	½
PD0090	1	153	90	1030 (40.5)	380 (15)	310 (12.2)	76 (3)	50 (2)	1000 (39.4)	70	2	**A3101XA**	¾
PD0110	1	187	110	1260 (49.6)	380 (15)	325 (12.8)	76 (3)	50 (2)	700 (27.6)	85	4	**A3101XA**	¾
PD0150	1	255	150	1595 (62.8)	380 (15)	325 (12.8)	76 (3)	50 (2)	850 (33.5)	105	4	**A3102XA**	1
PD0180	1	306	180	1845 (72.6)	380 (15)	325 (12.8)	76 (3)	50 (2)	1000 (39.4)	122	4	**A3102XA**	1
PD0220	1½	374	220	1262 (49.7)	380 (15)	490 (19.3)	76 (3)	62 (2.4)	700 (27.6)	154	8	**A3122XA**	1 ¼
PD0300	1½	510	300	1596 (62.8)	380 (15)	490 (19.3)	76 (3)	62 (2.4)	850 (33.5)	195	8	**A3151XA**	1 ¼
PD0360	1½	612	360	1845 (72.6)	380 (15)	490 (19.3)	76 (3)	62 (2.4)	1000 (39.4)	225	8	**A3151XA**	1 ½

* Stated flows are for an inlet pressure of 7 barg (100 psig) with reference to 20° C (68°F), 1 barg (abs.), 0% relative water vapour pressure. For flow at other pressures, temperatures and dewpoints apply correction factors on page 13.

Models PD0046-PD0180



Models PD0220-PD0360



Dryer correction factors

Operating pressure (PCF)										
barg	4	5	6	7	8	9	10	11	12	13
psig	58	72	87	100	115	130	145	160	174	189
Correction factor	0.62	0.75	0.87	1	1.12	1.25	1.37	1.5	1.62	1.75

Temperature (TCF)							
Celcius °C	20	25	30	35	40	45	50
Farenheit °F	68	77	86	95	104	113	122
Correction factor	1.3	1.2	1.1	1	0.75	0.65	0.45

Pressure dewpoint (DCF)					
Celcius °C	-20	-30	-40	-70	-74
Farenheit °F	-4	-22	-40	-94	-100
Correction factor	1.23	1.2	1	0.8	0.77

PRODRY Sizing Example

To correctly select the PRODRY model suitable for your application the following information is required: Minimum Inlet Pressure, Maximum Inlet Temperature, Maximum Compressor Inlet Flow and Required Pressure Dewpoint (PDP).

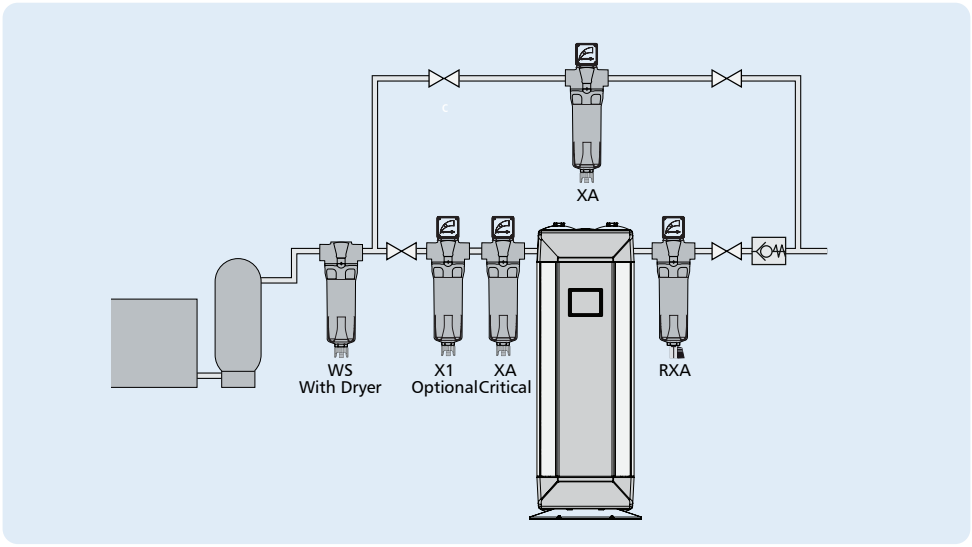
Requirements		Correction Factor
Maximum compressor inlet flow	56 scfm	-
Actual minimum inlet pressure to the dryer	6 barg	PCF = 0.87
Maximum inlet temperature	25°C (77°F)	TCF = 1.2
Pressure dewpoint (PDP)	-74°C (-100°F)	DCF = 0.77
Corrected dryer flow rate	$\frac{\text{Inlet flow rate}}{\text{PCF x TCF x DCF}} = \frac{56}{(0.87 \times 1.2 \times 0.77)} = \frac{69.7 \text{ scfm}}{(118 \text{ Nm}^3/\text{hr})}$	
Appropriate Dryer Size	Dryer model is selected based on the corrected flow rate, i.e. PD0075.	

Technical notes

1. Pre-filtration, including a Water Separator is essential to maintain dryer performance.
2. An appropriate Water Separator must be installed. If bulk water enters the adsorption dryer it can cause heat expansion to the desiccant, substantial rise in the dryer differential pressure, lead to poor outlet dewpoint, and cause potential dryer failure.
3. Walker Filtration recommends fitting an RXA dust filter to the outlet.
4. Call your nearest Walker Filtration sales team for further information.

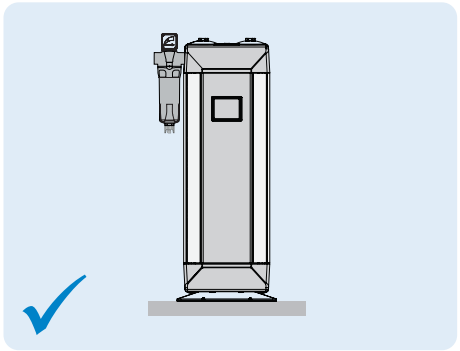
Mechanical Installation

Figure 4.1: Typical installation



To prevent back flow into the dryer a non-return valve should be placed in-line, downstream of the dryer. This is essential when more than one dryer is used in a single application.

Figure 4.2: Level ground



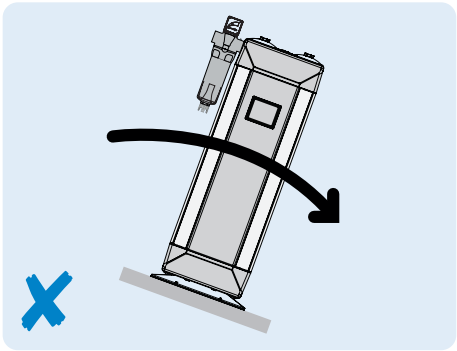


Figure 4.3: Location

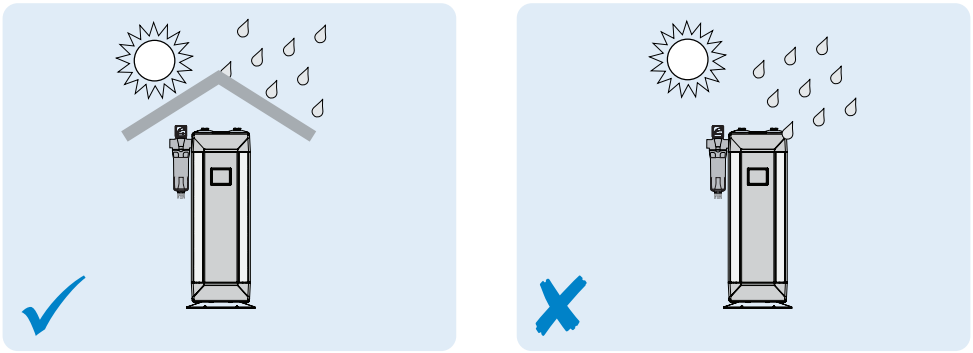


Figure 4.4: Hard piped installation

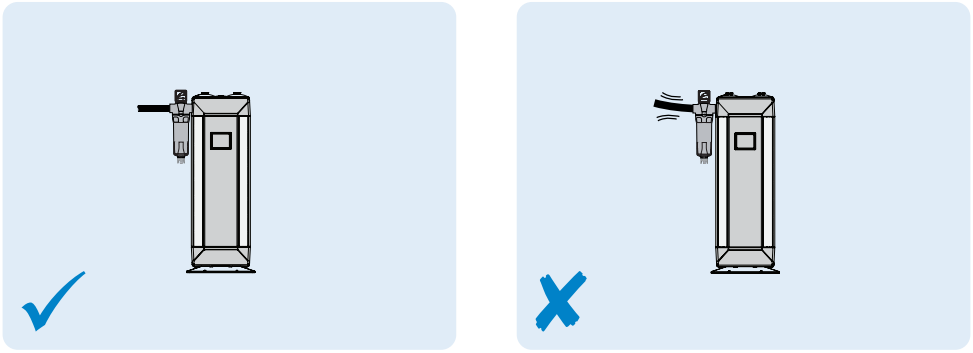


Figure 4.5 Exposure to heat

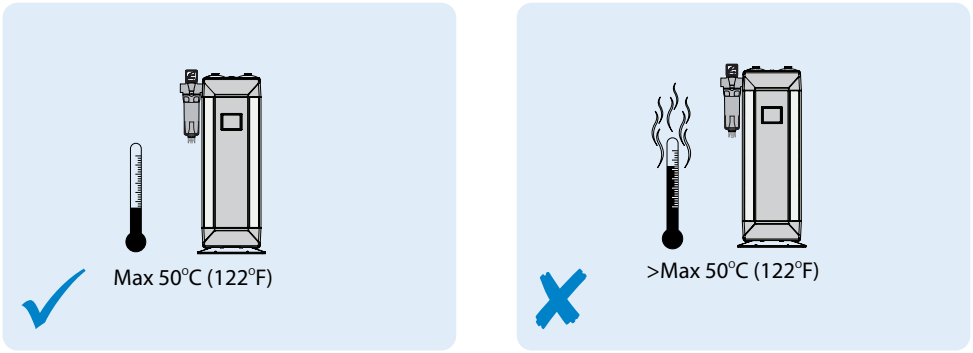
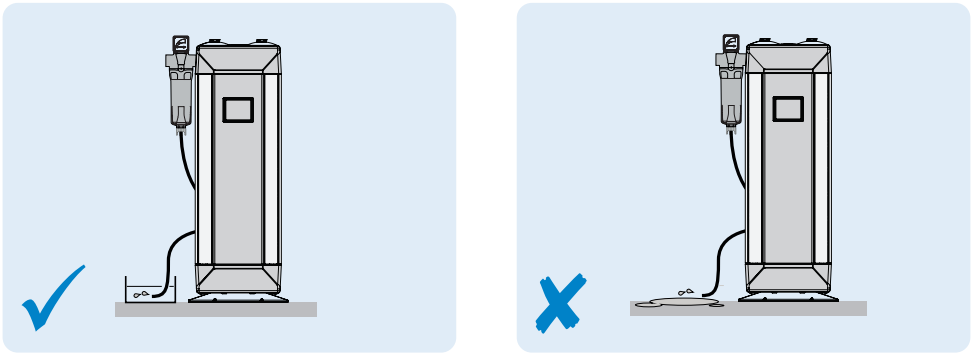
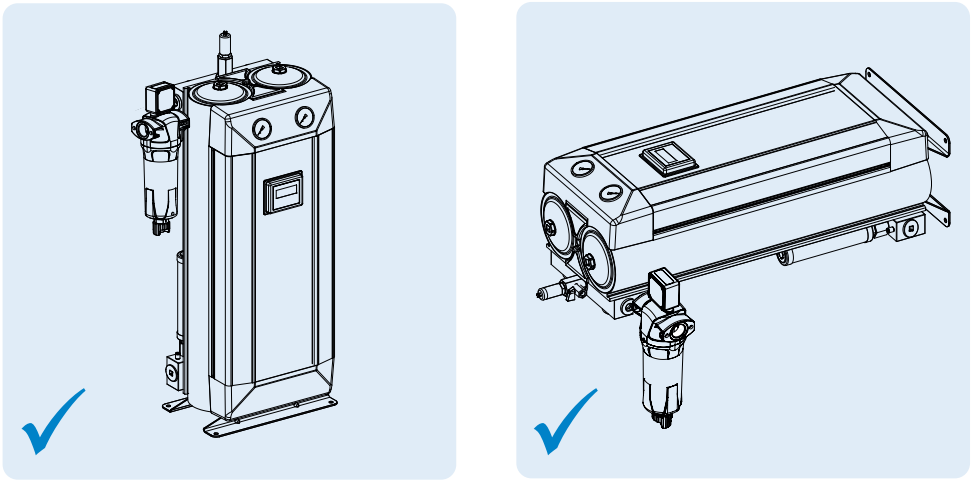


Figure 4.6: Drainage (all tubing should be secured up to the point of drain to prevent whipping during discharge)



Orientation

Figure 4.7: The PRODRY range of dryers is designed to operate in both vertical and horizontal orientation.

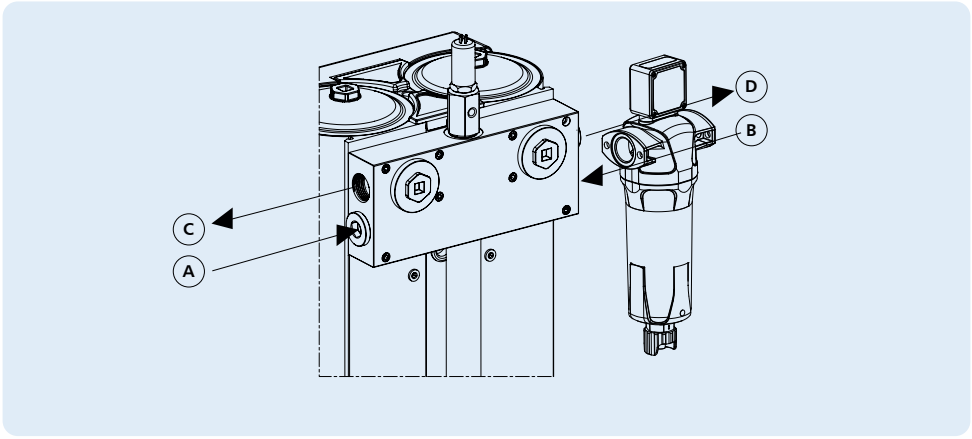


Re configuration of the inlet / outlet ports

PD0046 – PD0360 models

- Dryer can be reconfigured to interchange position of inlet and outlet ports as per figure 4.8.
- PRODRY has two inlet ports (A and B) and two outlet ports (C and D). Either (A or B) can be used for inlet and (C or D) for outlet. Make sure the un-used ports are blanked off with provided pressure plugs.

Figure 4.8: Inlet/outlet ports



	Any of the two outlet ports can be used on **occasion. Please ensure flow at outlet should not exceed specification. Please adhere to regional** regulations.
	It is strongly advised to connect a non-return valve to the outlet port of the dryer.
	Only use one inlet port at any one time
	Ensure original seals are in place.
	Check dryer is leak-free prior to operation.
	Ensure that any surges in flow do not exceed the dryers rated flow capacity.

Tools required

- *Adjustable spanner*
- *Ratchet with 17mm Hexagonal connection (PD0046 - PD0180)*
- *Ratchet with 1" Hexagonal connection (PD0220 - PD0360)*

Connecting the pre-filter to the dryer

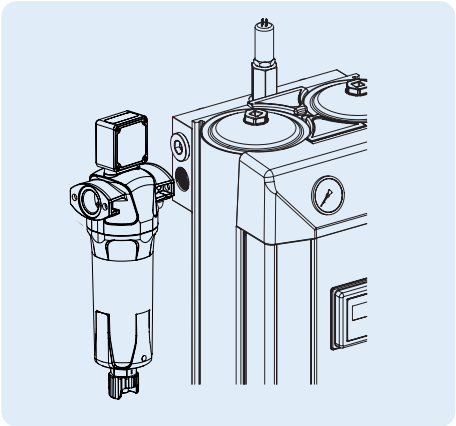
PD0046 – PD0360 models

- Attach pre-filter (purchased separately) utilising a pipe nipple and/or pipe adapter.
- Pipe away condensate with tubing from drain outlet. Ensure condensate is drained into an oil/Water Separator.
- Fit any further filtration and/or ancillary equipment.
- Pre-filter is typically supplied with an autodrain installed in the bowl drain port. On DMC models, this can be replaced with a solenoid drain valve which is an optional extra sold separately.

⚠ All tubing should be secured up to the point of drain to prevent whipping during discharge.

- It is recommended that a bypass line including XA filter is installed, as per figure 4.1.

Figure 4.9: Connecting a pre-filter

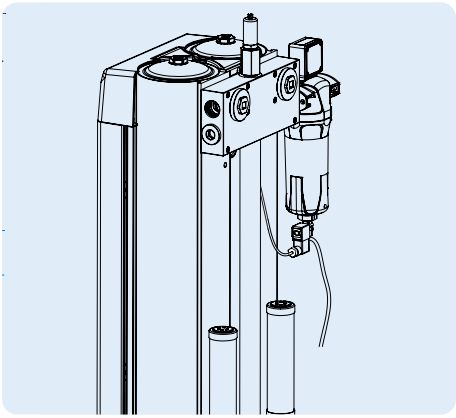


Connecting the optional pre-filter drain valve

- Available on DMC models only.
- If necessary, remove existing autodrain valve from pre-filter.
- Install pipe adapter into pre-filter drain port.
- Install optional solenoid drain valve onto pipe adapter(s) taking care to note how direction as indicated by arrow etched into the side of the drain valve body.
- Pipe away condensate with tubing from drain outlet. Ensure condensate is drained into an oil/Water Separator.

⚠ All tubing should be secured up to the point of drain to prevent whipping during discharge.

Figure 4.10: Connecting filter drain



Installing the hygrometer (DMC models only)

PD0046 – PD0360 models

- Remove hygrometer from packaging.
- Carefully remove plastic cover from the sensor.

Do not touch white sensor tube.

- Hygrometer sample block is pre-installed in the dryer's top manifold assembly. Remove cover from threaded port.
- Confirm the threads on the hygrometer sample block are clean and free from any dirt, water, cutting lubricant, liquid thread sealant, oil and/or grease.
- Per figure 4.11, insert hygrometer into the hygrometer sample block and turn to clockwise to tighten. Tighten lightly with adjustable spanner. (28Nm Max)
- Fit hygrometer DIN plug to the hygrometer and tighten screw with pozi-head screwdriver.

Figure 4.12 Hygrometer attached

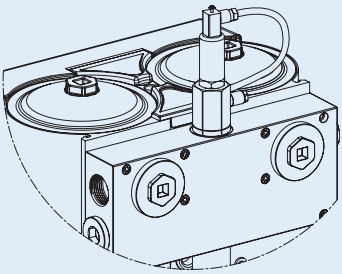
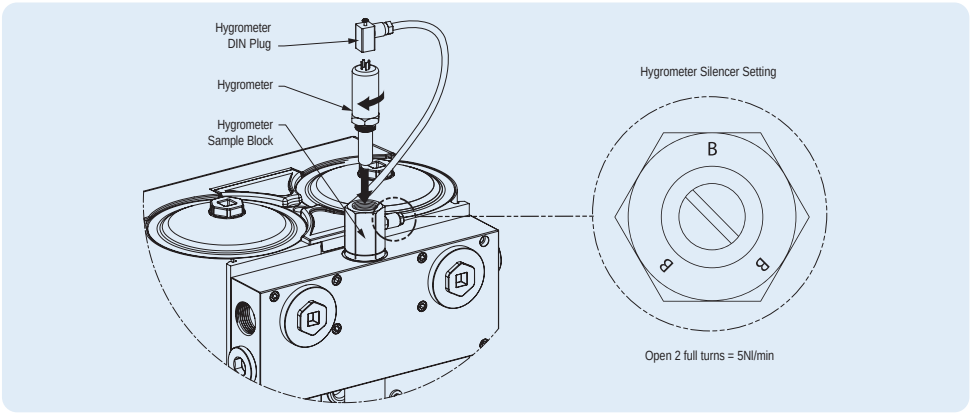


Figure 4.11 Attaching hygrometer



Appendix 1

Supply Pressure to Dryer (barg)	Number of Turns (from fully closed position)
4	1.5
5	1.25
6	1.25
7	1
8	1
9	0.75
10	0.75
11	0.75
12	0.75
13	0.5

Tools required

- *Adjustable spanner*
- *Pozi-head screwdriver*

Purge Orifice Size Identification

- Reference figure 4.13 and the Purge Plug Identification Table.
- Each dryer is pre-set with the correctly sized purge valve for an operating pressure of 7 barg (100 psig) at point of order.
- The lettering (A through S), located on the purge valve body, indicates the orifice size selected to suit the operating pressure of the dryer per the chart below.
- If the inlet pressure to the dryer will be different than the pre-set orifice size, the purge valve can be adjusted.
- Most dryers use a single orifice purge valve represented by the Blue and Green single letter references in the table below.
- Larger dryers may require a two or three hole purge valve as represented by the Red and Yellow two and three letter references.
- To select the correct orifice size, locate the appropriate dryer model at the left side of the table and then the operating pressure at the top.
- Make sure that the correct valve body (1, 2 or 3 hole) and orifice disc (01, 02, 03 or 04) has been supplied with the dryer. The discs have the number (01, 02, 03 or 04) stamped out at the top.

Purge Plug Identification

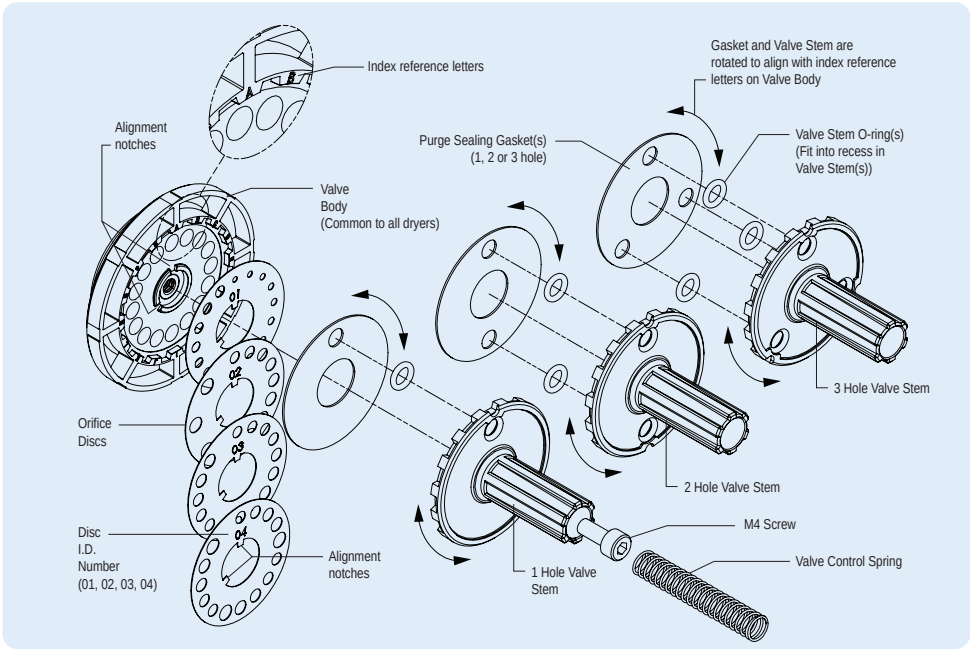
Operating pressure	4	5	6	7	8	9	10	11	12	13
Dryer										
PD0046	M	K	I	H	G	F	E	E	E	D
PD0056	P	M	L	K	J	I	H	G	F	F
PD0075	B	S	P	M	L	L	K	I	I	H
PD0090	C	A	P	P	N	L	K	J	I	H
PD0110	I	E	C	A	P	M	K	K	J	I
PD0150	CK	M	G	F	C	B	A	S	S	P
PD0180	EM	CK	P	I	G	E	C	B	A	A
PD0220	AFK	FN	DL	P	K	H	F	E	D	C
PD0300	DIN	CHM	AFK	GP	DL	CK	BJ	M	I	H
PD0360	EJP	DIN	CHM	AFK	AFK	GP	EM	DL	BJ	AI
HYG-BLEED	1.5	1.25	1.25	1	1	0.75	0.75	0.75	0.75	0.5

Disc
01
02
03
04

Every dryer is shipped with a purge orifice set up for 7 barg (100 psig) operation. The dryer will also include the necessary purge valve components to configure the dryer to operate at any pressure from 4 barg (58 psig) to 13 barg (189 psig). For example:
A PD0150 dryer will be supplied with a single hole purge assembly with an 02 purge disc installed and indexed to position F.
Additional purge valve components will be included to allow the dryer to be configured to purge settings, CK, M, G, C, B, A, S, S and P.

Appropriate purge plug selection is very important for function of the dryer. Failure to comply with this may affect your warranty.

Figure 4.13 Purge valve assembly



Purge Valve Assembly

- Reference figure 4.13 and the Purge Plug Identification Table on Page 20.
- Once the correct purge body (1, 2 or 3 hole) and orifice disc (01, 02, 03 or 04) has been selected per the instructions on Page 20, the purge valve may be assembled.
- The index letters located on the purge valve body correspond with the selected orifice sizes per the Table on Page 20.
- Place the appropriate orifice disc onto the valve body, taking care to align the notches. The disc will only fit in one position.
- Place the valve stem O-ring(s) into their corresponding recesses on the back of the valve stem.
- Align the holes in the purge sealing gasket with the corresponding holes in the valve stem.
- Rotate the valve stem assembly so that the correct orifice letters align with the notches corresponding to the holes (1, 2 or 3) in the valve stem.
- Press the assembly together and fasten with the M4 screw.
- Double check to make sure that the open orifice holes correspond with the correct orifice selection as identified earlier.

Electrical Installation

PRODRY Controller power supply options

Models PD0046 - PD0360

- The dryer is designed to operate on either AC or DC supply voltage dependant on controller option.
- Electrical wiring must comply with local regulations. Voltage requirements must be confirmed to be within the specification on the dryers rating plate.
- Ensure only one power source is connected at any one time and is connected to the correct socket as shown in figures 5.1 (LED Controller) and 5.2 (DMC Controller).
- The LED and DMC controller require an earth to be connected within the DIN connector.
- The cable selection must suit local installation regulations and be appropriate to power consumption as shown in the Controller specification tables on pages 23 and 24.

PRODRY Recommended power cable specifications

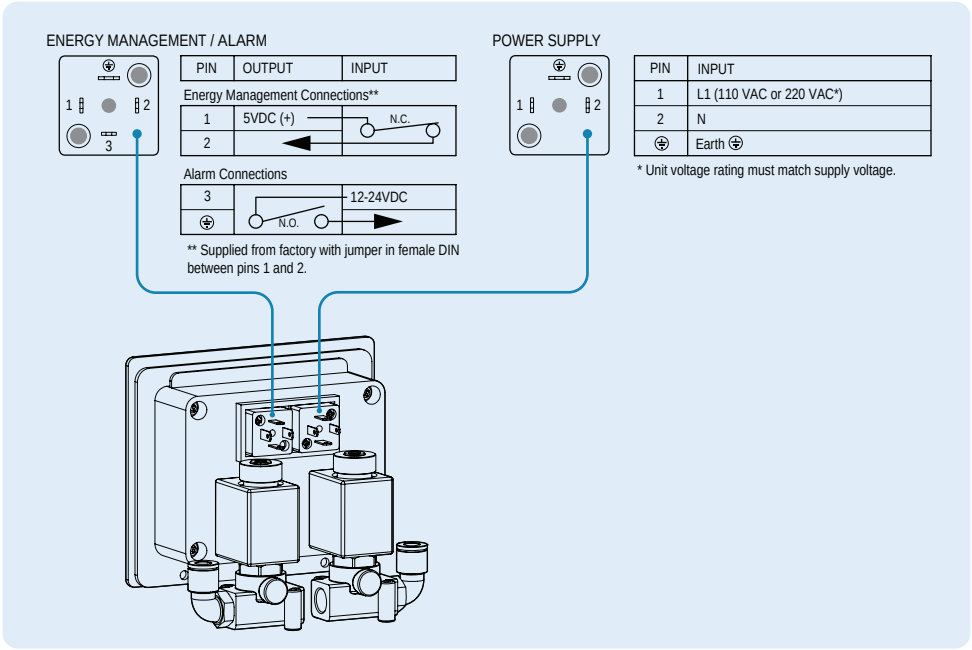
Controller Type	Number of cores	Cross Sectional Area / AWG	Recommended Max. Length	Type	Standard Compliance
24VDC DMC	3	0.75mm² / 18 AWG	3 Metres	SJOW for Thermoset cable types or SVT and SJT for Thermoplastic cable types	IEC 60227 or IEC 60245
110/230VAC LED	3				

LED Controller Specifications	
Ambient temperature	5°C to 50°C (35°F to 122°F)
Input voltage range (115V LED Controller)	115V, 50–60Hz, Mains supply voltage not to exceed ±10% of nominal Power Rating 16W (Max)
Input voltage range (230V LED Controller)	230VAC, 50-60Hz, Mains supply voltage not to exceed 10% of nominal Power Rating 16W (Max)
Protection class	IP65

A circuit breaker or switch must be installed near the dryer. This should be easy to reach and shall be certified according to EN60947-1 and EN60947-3. The switch or circuit breaker shall be marked as the disconnecting device for the dryer and needs to be marked with on and off positions.

Output connections do not provide isolation from the mains connectors and interconnecting wiring must meet EN61010-1:2001 requirements for reinforced insulation.

Figure 5.1: LED Controller electrical connections

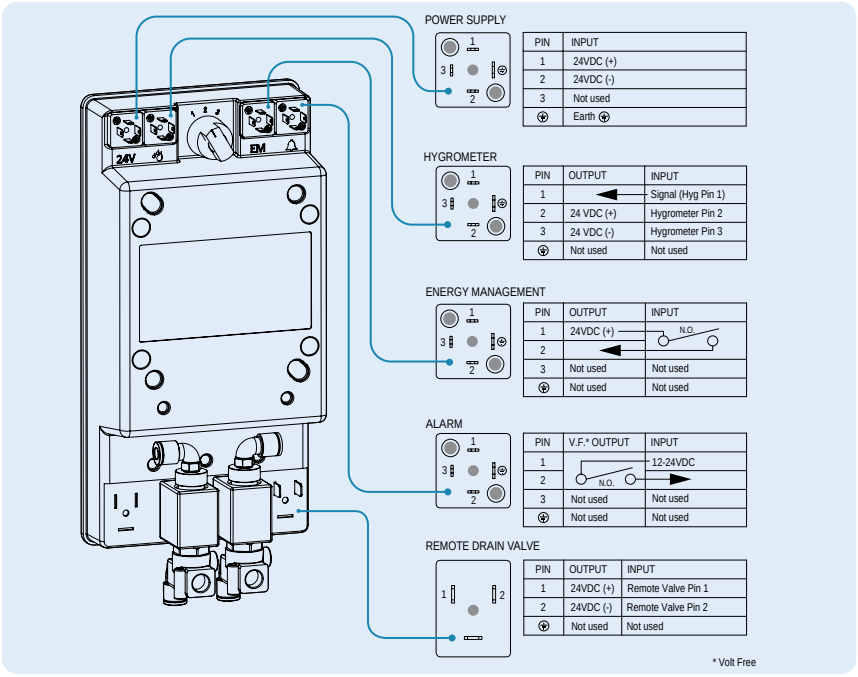


DMC Controller Specifications	
Ambient temperature	5°C to 50°C (35°F to 122°F)
Input voltage range (24VDC DMC Controller)	24VDC Power Rating 16W (Max)
Protection class	IP65

A circuit breaker or switch must be installed near the dryer. This should be easy to reach and shall be certified according to EN60947-1 and EN60947-3. The switch or circuit breaker shall be marked as the disconnecting device for the dryer and needs to be marked with on and off positions.

Output connections do not provide isolation from the mains connectors and interconnecting wiring must meet EN61010-1:2001 requirements for reinforced insulation.

Figure 5.2: DMC Controller electrical connections



How to wire a DIN connector

Models PD0046 - PD0360

- Locate the DIN connector on the back of the controller.
- Remove the screw completely from the centre of the connector.
- Remove the blanking plug, if present, from the connector and discard.
- Insert a small flat screwdriver into the small recess at the edge of the insert, pry the insert out of the DIN connector's outer shell per figure 5.3.
- Per figure 5.4, slip cable end through DIN connector's cable gland, washer, grommet and out through the front of the DIN connector case.

Cable diameter should be no greater than 6mm **(1/4"). Larger diameters do not fit well into the cable** gland of the DIN connectors.

Cable should be round as rectangular cable or ribbon cable will not seal properly in DIN connectors grommet.

- Strip the outer insulation of the cable back approx 20mm (3/4").
- Strip the conductor insulation back approx 3mm (1/8").
- Insert conductors into appropriate pins of insert. Tighten retaining screws securely.
- Determine which direction the cable gland should point.
- Carefully pull the cable back through the case until the insert snaps back into place. Take care to work the wires around the retaining screw hole as they can become fairly easily pinched.
- Plug the DIN connector back onto the appropriate electrical connection on the back of the dryer's controller per figure(s) 5.1 and 5.2. Take care to make sure that sealing gasket is in place.

The male ground pin is slightly wider than pins 1 & 2. Take care to ensure that the female connector is oriented correctly.

Figure 5.3: DIN connector

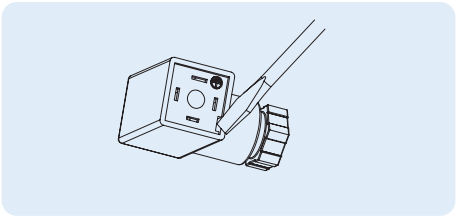
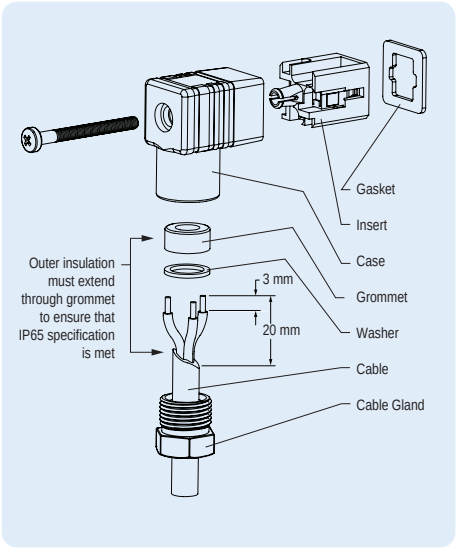


Figure 5.4: DIN connector for LED and DMC Controller



Alarm connection details

Models PD0046 - PD0360

- To enable the alarm facility, it is recommended that a suitable cable is brought into the controller via the rear panel with a grommet. An external power source is required.
- Per Figures 5.5 (LED Controller) or 5.6 (DMC Controller), connect the switching pole of an externally powered alarm indication device to the corresponding terminals of the controller's alarm output.

For details regarding wiring of female DIN connector refer to "How to wire a DIN connector" on page 25.

Alarm Connection Details	
Hirschmann GDS 207 industrial std DIN connector or equivalent	
Alarm Contact Rating (LED Controller)	3.0 AMPS 28VDC
Alarm Contact Rating (DMC Controller)	0.5 AMPS 24VDC

Fig 5. 5 Alarm contact connections (LED Controller)

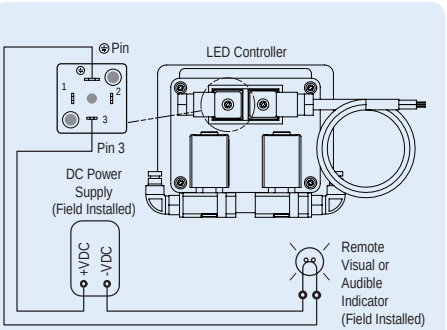
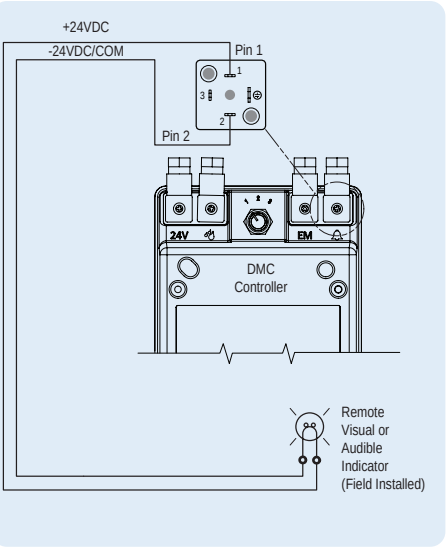


Fig 5.6 Alarm contact connections (DMC Controller)



Operation

Background / Function of the dryer

PRODRY is designed to provide a smooth, controlled and uninterrupted delivery of dry compressed air. Wet air passes through a pre-filter and travels down to the bottom valve assembly. The air is then fed through the bottom of the desiccant bed and moves through the high performance desiccant until it becomes dry. On exit from the desiccant cartridge, the air is passed through the outlet valve assembly.

During this process, the dryer control system cycles the process air between the two desiccant towers. While one tower is on stream removing water vapour, the other is being carefully depressurised in preparation for regeneration. The desiccant bed is regenerated by expanding a small amount of dry process air, or purge air, through the saturated desiccant.

Purge air passes to atmosphere through the silencer, which is fitted to an exhaust valve. The chamber is then repressurised, with the control system assuring each chamber is at full operational pressure prior to changeover.

This ensures a reliable and efficient operation. The air stream is switched and the cycle repeats on a continuous basis.

Detailed Operational Description - LED Controller

- Refer to detailed operational schematics, figure(s) 6.3 - 6.8.
- LED Controller operates on a standard timed cycle as detailed in Figures 6.3 through 6.8.
- Panel LED's illuminate to indicate various service warnings, refer to Troubleshooting in Section 11 for specific details.
- To reduce purge loss during periods of low and / or no air demand the Energy Management feature may be utilised. A detailed description is given in Section 7.
- For remote indication of any faults, the Alarm Contacts may be utilised to send a signal to a light or remote service panel. Further details are given on page 26.

Detailed Operational Description - DMC Controller

- Refer to detailed operational schematics, figure(s) 6.3 - 6.8.
- DMC Controller operates on a standard timed cycle as detailed in Figures 6.3 through 6.8.
- Operational status is displayed in text form on the LCD display.
- When installed, a hygrometer allows the DMC controller to shut off the purge when the outlet dewpoint is within one of three selectable dewpoint ranges. The ranges are controlled by a switch located on the upper back side of the DMC controller as detailed in figure 6.1.

- Range 1: -20°C (-4°F)

Required outlet pressure dewpoint:	-20°C (-4°F)
Purge shut off value:	-23°C (-9.4°F)
Purge turn on value:	-21°C (-5.8°F)

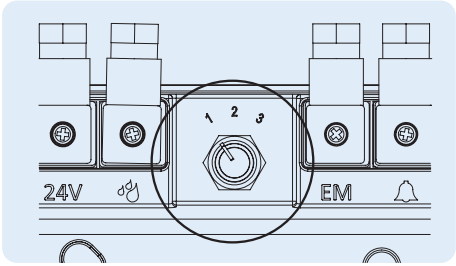
- Range 2: -40° (-40°F)

Required outlet pressure dewpoint:	-40°C (-40°F)
Purge shut off value:	-43°C (-45.4°F)
Purge turn on value:	-41°C (-41.8°F)

- Range 3: -74°C (-100°F)

Required outlet pressure dewpoint:	-74°C (-100°F)
Purge shut off value:	-76°C (-104.8°F)
Purge turn on value:	-74°C (-100°F)

Figure 6.1: Dewpoint selection switch control



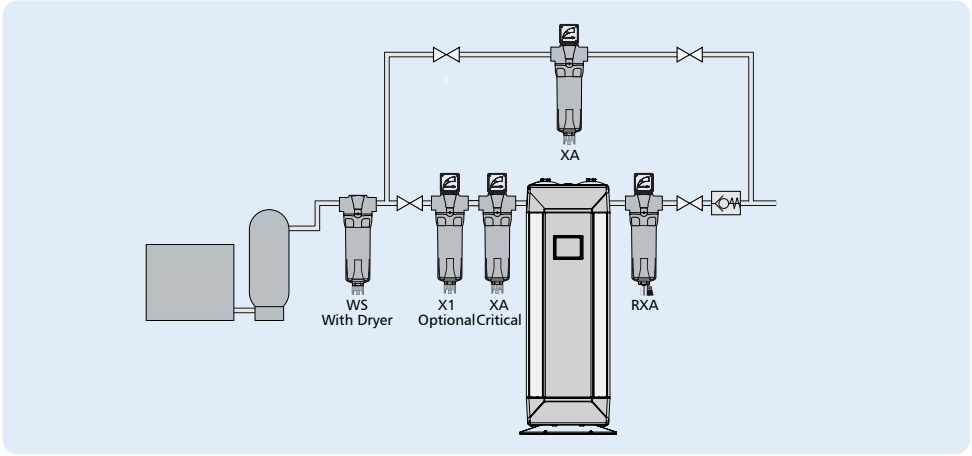
If the hygrometer is not installed, the DMC controller will default to the standard timed cycle of operation.

- If not utilising a hygrometer, purge loss may be reduced during periods of low or no air demand. The Energy Management Feature (EM) may be utilised in this case. A detailed description is given in Section 7

Please note that the Energy Management feature should not be used when a hygrometer is installed in the dryer.

- For remote indication of any electrical faults, the Alarm Contacts may be utilised to send a signal to a light or remote service panel. Further details are given on page 26.
- An optional pre-filter drain solenoid valve is available for the DMC controller. When installed as per figure 4.10, the drain will open for 2 seconds at the beginning of each cycle. Operational schematic, figure 6.8 provides additional detail.

Figure 6.2: Typical installation



Start-up procedure

- Refer to figure 6.2
- Close valves A, B, C and D.
- Switch on compressor.
- Open valve A slowly.
- Check there are no leaks from the dryer
- Switch on electric power, the panel will display the operational features.
- The dryer will enter standard cycle mode.

On initial commissioning, only run the dryer for a minimum of 6 hours to ensure dewpoint is adequate.

- Open valve B slowly.

Shut-down Procedure

- Close valve B.
- Close valve A.
- Leave dryer running for 15 minutes to fully de-pressurise.
- Switch off all electrical power to the dryer.

Under no circumstances must compressed air be **allowed to flow through the dryer following switch** off of electrical power. This will result in terminal failure of the desiccant cartridges and regeneration will not be possible.

Figure 6.3: Initial Pressurisation (Power Off)

- With power off to the dryer, both towers pressurise to line pressure. The N.O., 3/2 solenoid valves are de-energised and therefore, are in an open position. The air supply through the solenoid valves forces the exhaust shuttles into a closed position, and the dryer remains air-tight (with the exception of a small bleed of air from the hygrometer sample block on DMC units).
- Note: Any air flowing through the dryer, passes through both towers.

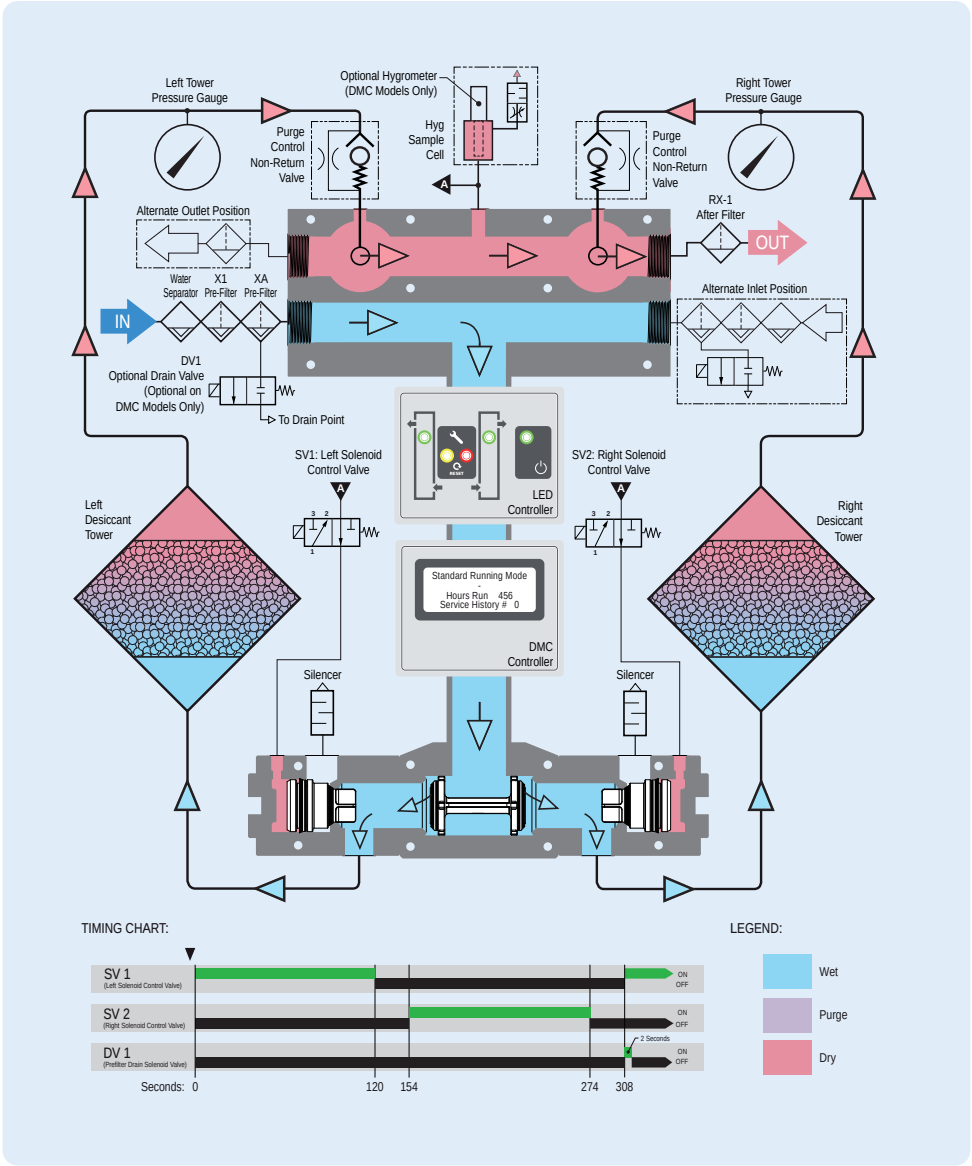


Figure 6.4: Stage 1: Left Tower Purging, Right Tower Drying

- After an initial 40 second delay on LED variants and as required on DMC units, the left solenoid is energised and therefore switches spool position releasing the compressed air behind the exhaust shuttle. This allows the left exhaust shuttle to open allowing air to rush from the left tower out of the silencer as it depressurises. For 120 seconds, a bleed of dry air from the outlet of the on-stream (right) tower is directed through the left purge orifice and down through the left tower to regenerate the off-stream (left) desiccant bed.

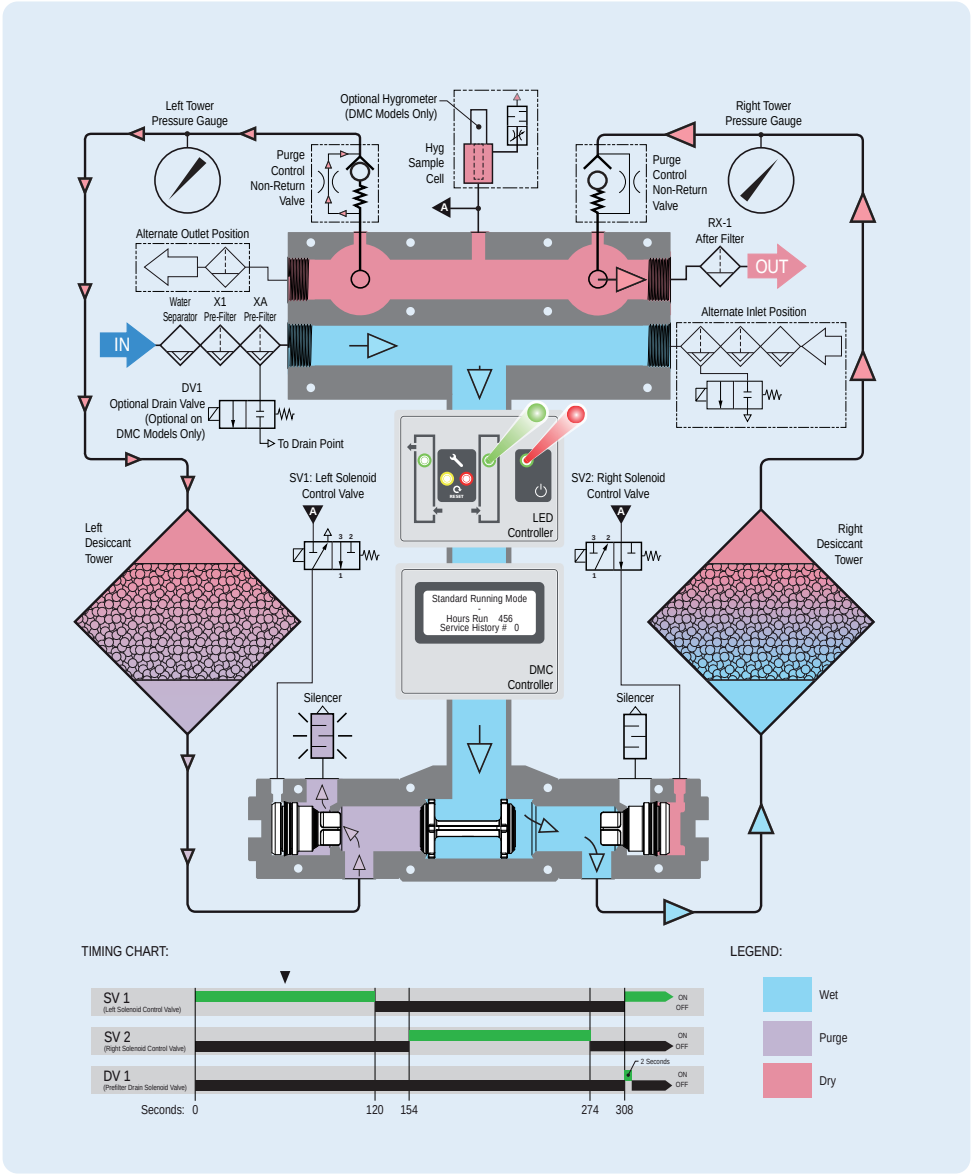


Figure 6.5: Stage 2: Repressurisation

- At completion of Stage 1, the left solenoid is de-energised and switches spool position allowing the air supply through the solenoid to close the left exhaust shuttle. The left tower then repressurises for a 34 second period.
- Note: Any air flowing through the dryer, passes through both towers.

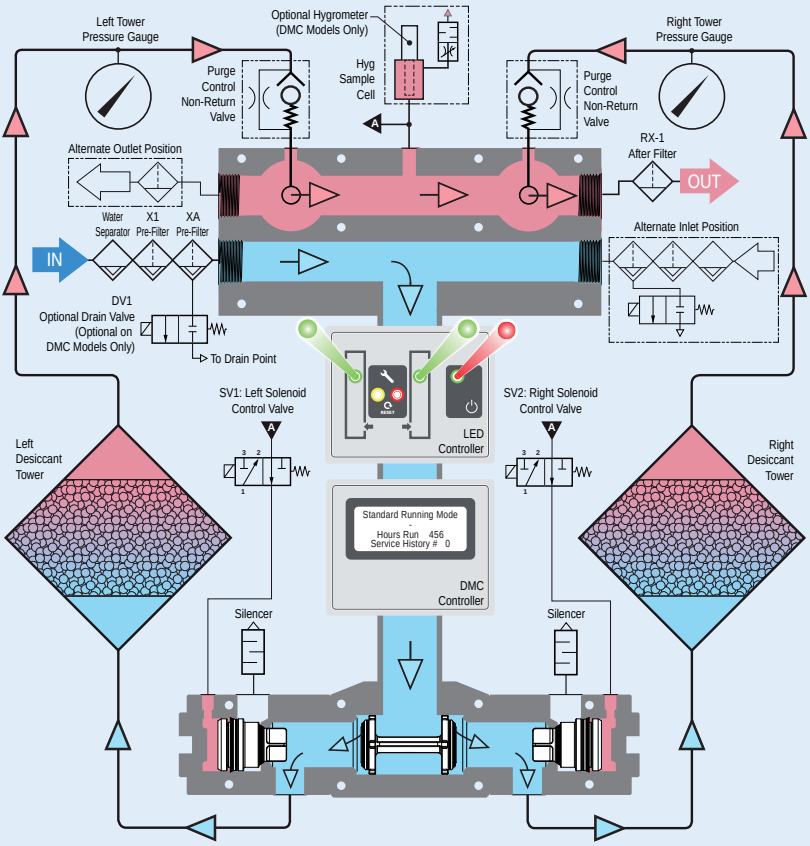


Figure 6.6: Stage 3: Left Tower Drying, Right Tower Purging

- At the completion of Stage 2, the right solenoid is energised and therefore switches spool position releasing the compressed air from behind the exhaust shuttle. This allows the right exhaust shuttle to open allowing air to rush from the right tower out of the silencer as it depressurises. For 120 seconds, a bleed of dry air from the outlet of the on-stream (left) tower is directed through the right purge orifice and down through the right tower to regenerate the off-stream (right) desiccant bed.

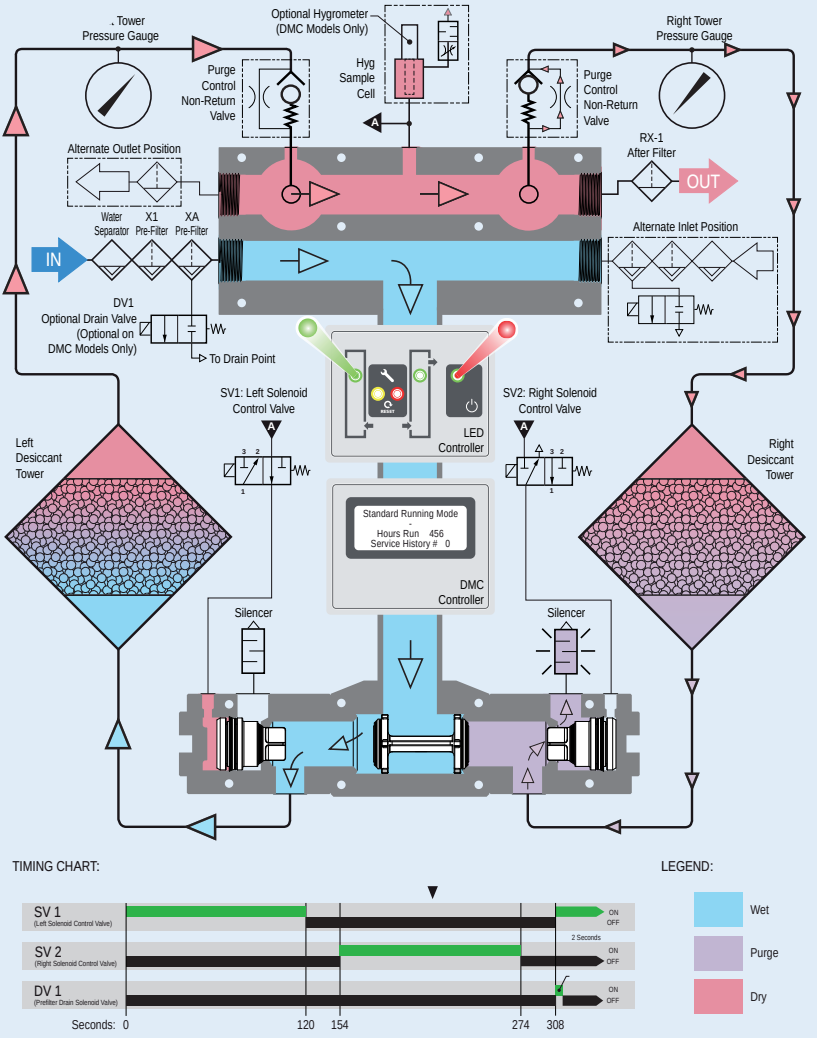


Figure 6.7: Stage 4: Repressurisation

- At completion of Stage 3, the right solenoid is de-energised and it switches spool position to allow the air supply through the solenoid to close the right exhaust shuttle. The right tower then repressurises for a 34 second period.
- Note: Any air flowing through the dryer, passes through both towers..

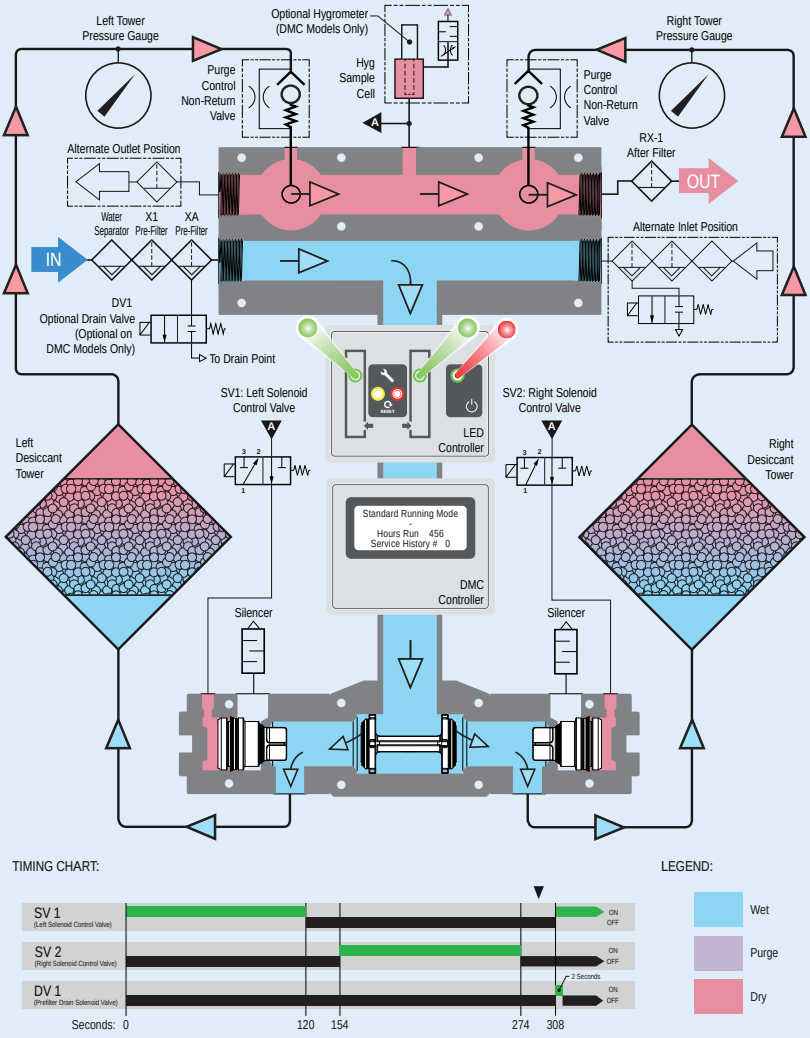
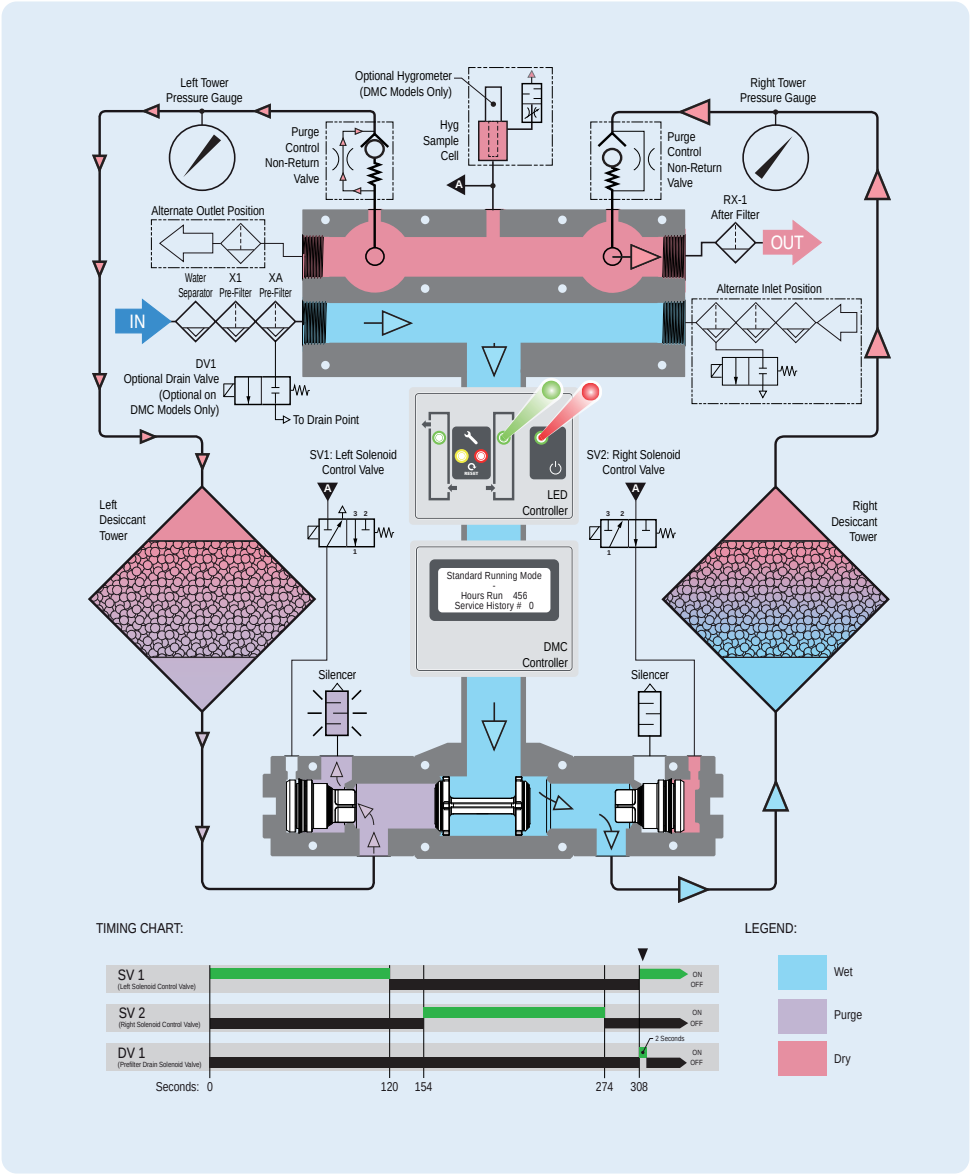


Figure 6.8: Drain Valve Activation

- At completion of Stage 4, the dryer moves back to Stage 1.
- The drain valve opens at the beginning of the cycle (Stage 1) for a period of 2 seconds.



Energy Management

Please note that the Energy Management feature should not be used when a hygrometer is installed in the dryer.

Overview

Regenerative dryers must expel a portion of the process air in order to free themselves of accumulated moisture. During periods of low air demand, however, this air loss is not necessary and is therefore undesirable. In many cases, the compressor runs almost continuously in order to keep up with the dryer's purge loss.

All Walker Filtration dryers are equipped with an Energy Management feature that allows the purge to be shut off during periods of low or no demand. The dryer controller is fitted with a set of field accessible contacts, that can be employed to shut off the solenoid valves which control the purge function of the dryer, therefore eliminating any air loss from the dryer.

Developing a Purge Control Strategy

In order to utilise this function, the operator must provide a switching system that provides acceptable logic to indicate to the dryer that there is little or no air demand. On the following pages, some examples of commonly used switching systems are provided in ascending order of complexity.

Using a Manual Switch for Purge Control

The simplest of arrangements, a manual switch may be employed to shut the purge off when the air downstream of the dryer is not being used. Commonly used on point of use systems. For example, if the dryer is only used to supply air of an appropriate dryness to a specific machine or application, the dryer will only be required when the machine is in use and may be shut off either manually or possibly via extra contacts provided in the machine's on/off switch.

It is extremely important to understand that the purge may only be shut off during periods of low or no demand. This feature, if used otherwise, can result in permanent damage to the desiccant beds resulting in loss of drying capacity and possibly mechanical failure. The cartridges must not be allowed to become fully saturated at any time.

The following schematic (Fig 7.1) offers an overview of the devices mentioned as they might be connected for use in controlling a dryer's purge function. Please note that specific details differ between device manufacturers, so in all cases the manufacturer's specifications should be adhered to.

Fig 7. 1 Manual switch purge control (LED Controller)

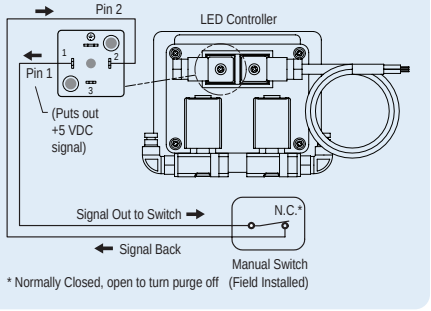
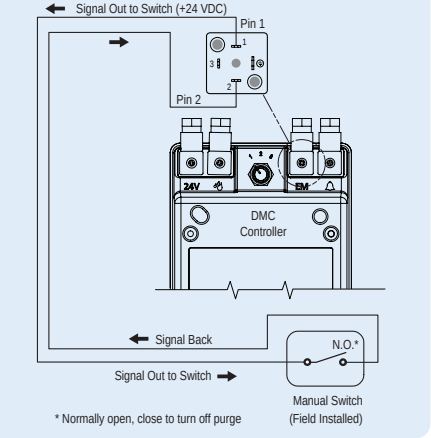


Fig 7.2 Manual switch purge control (DMC Controller)



Using a Standard Pressure Switch for Purge Control

Many compressors come equipped with pressure switches with extra contacts that can be utilised to switch off the dryer's purge when the compressor is in an unloaded state. Unfortunately, many of these switches have significantly large dead bands (difference between the load (on) and unload (off) settings that in most cases cannot be altered). The amount of air that can pass downstream, through the dryer, while the compressor is unloaded must be taken into consideration as it can be significant, especially if there is a large dead band and/or large wet receiver.

Often, a stand-alone pressure switch is a better option as it allows the user to adjust it independently from the compressor's pressure switch. When selecting a stand-alone pressure switch, the smaller the dead band the better.

When using a stand-alone pressure switch, the dryer is wired into the normally closed (LED Controller) or normally open (DMC Controller) contacts on the pressure switch. When the switch is actuated (at 100 psig in the example), the purge shuts off until the pressure switch deactuates (at 95 psig in example). The point at which the switch deactuates, may be adjusted to suit the system.

If it is determined that the dewpoint drops to an unacceptable level, the deactuation point must be increased. Please note that with most standard pressure switches, the dead band is fixed such that the activation and deactuation points move together.

It is extremely important to understand that the purge may only be shut off during periods of low or no demand. This feature, if used otherwise, can result in permanent damage to the desiccant beds resulting in loss of drying capacity and possibly mechanical failure. The cartridges must not be allowed to become fully saturated at any time.

Figures 7.3 and 7.4 offer an overview of the devices mentioned as they might be connected for use in controlling a dryer's purge function. Please note the specific details differ between device manufacturers, so in all cases the manufacturer's specifications should be adhered to.

Fig 7. 3 Standard pressure switch purge control (LED Controller)

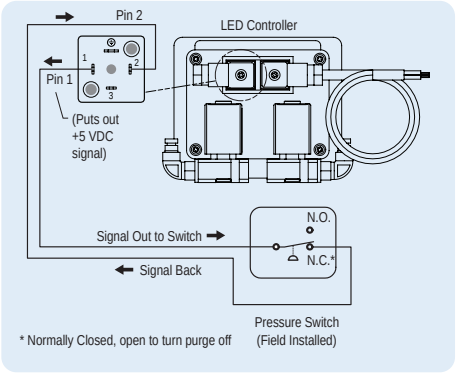


Fig 7.4 Standard pressure switch purge control (DMC Controller)

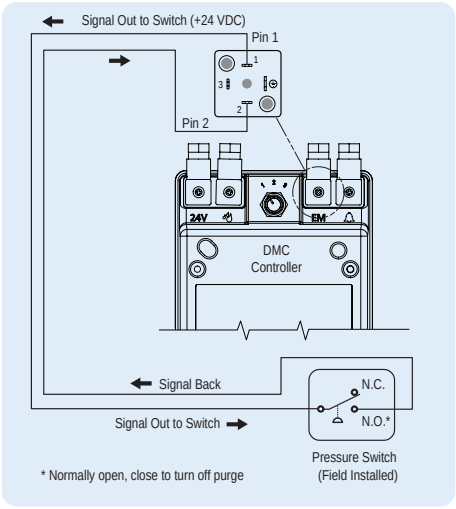
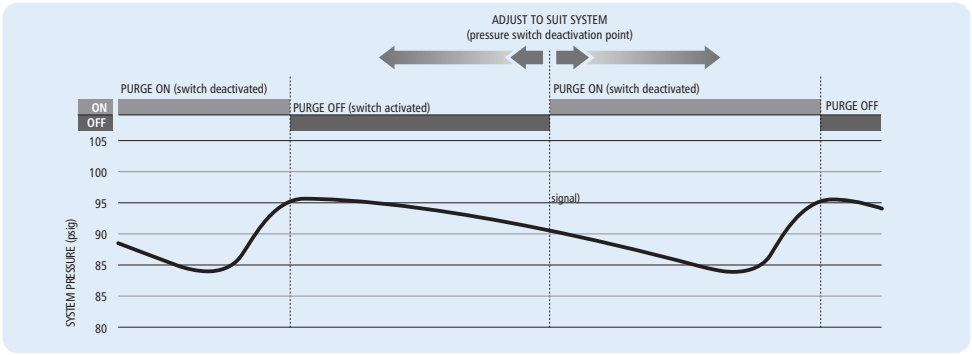


Figure 7.5: Typical installation



Using an Electronic Pressure Switch for Purge Control

The best choice if using a pressure switch is to select an electronic programmable type pressure switch which is effectively a pressure transmitter and process controller built into one device. While significantly more costly than a standard pressure switch, an electronic programmable pressure switch can be setup to provide a much more customized operation. Typically, the dead band can be reduced or eliminated so that an immediate reaction to system pressure in system indicating air flow, can be obtained.

It is extremely important to understand that the purge may only be shut off during periods of low or no demand. This feature, if used otherwise, can result in permanent damage to the desiccant beds resulting in loss of drying capacity and possibly mechanical failure. The cartridges must not be allowed to become fully saturated at any time.

Figures 7.6 and 7.7 offer an overview of the devices mentioned as they might be connected for use in controlling a dryer's purge function. Please note that specific details differ between device manufacturers, so in all cases the manufacturer's specifications should be adhered to.

This setup is for example only. This configuration can be amended, depending on application.

Figure 7.6 Electronic pressure switch for purge control (LED Controller)

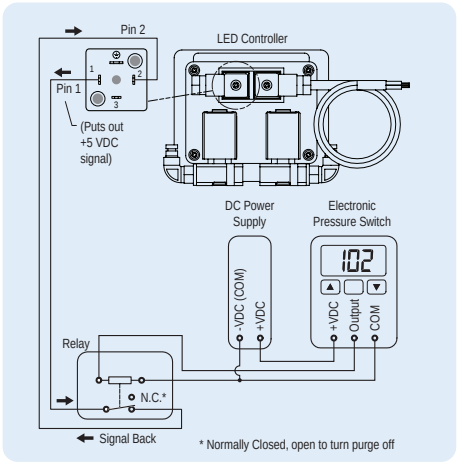
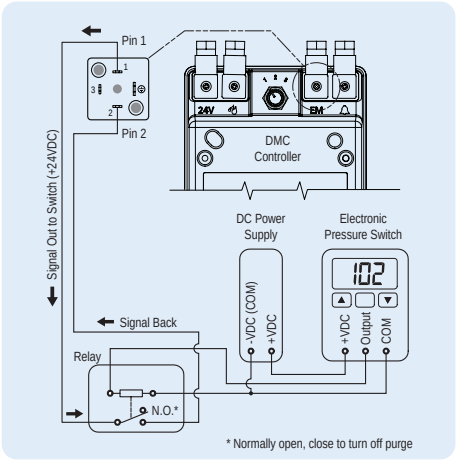


Figure 7.7 Electronic pressure switch for purge control (DMC Controller)



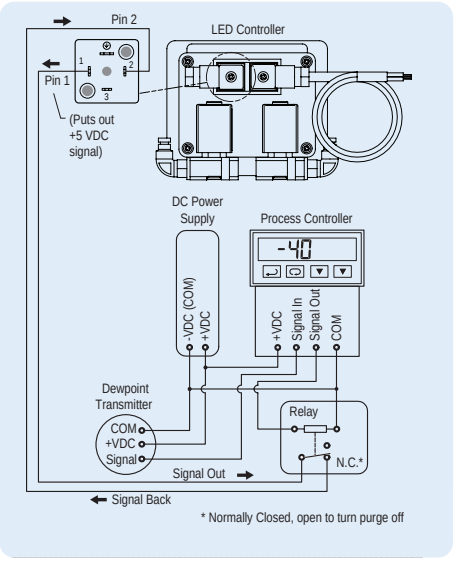
Using a hygrometer and process controller for purge control

The best option for purge control if the delivered dryness (pressure Dewpoint) of the air from the dryer is critical. If the air is deemed dry enough, then the purge can be shut off until the air's moisture starts to climb. If the purge is turned off, care must be taken to ensure that the desiccant beds are not allowed to wet out too far before the purge is turned back on. Also, after turning the purge back on, the air's pressure Dewpoint may increase a bit before starting to drop again. This should be taken into consideration to ensure that the air flow remains sufficiently dry.

It is extremely important to understand that the purge may only be shut off during periods of low or no demand. This feature, if used otherwise, can result in permanent damage to the desiccant beds resulting in loss of drying capacity and possibly mechanical failure. The cartridges must not be allowed to become fully saturated at any time.

Figures 7.8 and 7.9 offer an overview of the devices mentioned as they might be connected for use in controlling a dryer's purge function. Please note that specific details differ between device manufacturers, so in all cases the manfacturer's specifications should be adhered to.

Figure 7.8: Process controller & hygrometer (LED Controller)



Making connections between a switching device & dryer Energy Management contact

Cable / Wire Selection Criteria:

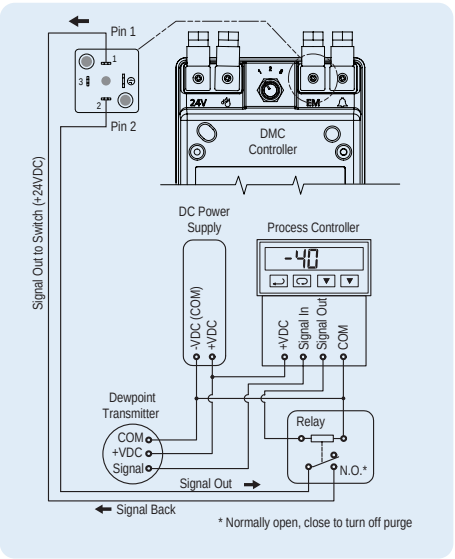
Selected wire should have:

At least 2 conductors. More conductors can be useful in the case of a conductor break. Conductors can be swapped without having to run new cable.

- *A conductor gauge of no greater than 18 awg is recommended to fit comfortably into the DIN connector insert.*
- *An outside diameter of no greater than 6mm (1 /4"). Larger diameters do not fit well into the cable gland of the EM DIN connectors.*
- *An insulation type compatible with the environment that it will be run in.*

This setup is for example only. This configuration can be amended, depending on application.

Figure 7.9: Process controller & hygrometer (DMC Controller)



Making connections between a switching device and dryer Energy Management contact.

- *Make the connection at the switch end first. This way you can check continuity at the dryer end before connecting to the dryer. Make sure that the contacts on the switch are normally closed for the LED Controller and normally open for the DMC Controller. Pin 1 of the dryer EM connection puts out a 5 VDC signal on the LED Controller and 24VDC on the DMC Controller. Take care to ensure that the contacts on the switching device are 'dry' and free of any voltage which could harm the dryer controller.*
- *Locate the DIN connector on the back of the controller (Figure(s) 7.11 and 7.12).*
- *Remove the screw completely from the centre of the connector.*
- *Remove the blanking plug from the connector and discard.*
- *Insert a small at screwdriver into the small recess at the edge of the insert, pry the insert out of the DIN connectors outer shell per figure 7.10.*
- *For LED Controller, remove the jumper wire which is between plug 1 and 2 and discard.*
- *Slip cable end through DIN connector's cable gland, washer, grommet and out through the front of the DIN connector case.*
- *Strip the outer insulation of the cable back approx 20mm (3/4").*
- *Strip the conductor insulation back approx 3mm (1/8").*
- *If possible using a meter, verify the switch function.*
- *Insert conductors into pins 1 & 2 of insert. Tighten retaining screws securely.*
- *Determine which direction the cable gland should point.*
- *Carefully pull the cable back through the shell until the insert snaps back into place. Take care to work the wires around the retaining screw hole as they can become fairly easily pinched.*
- *Plug the DIN connector back onto the dryer's EM connection*

The male ground pin is slightly wider than pins 1 & 2. Take care to ensure that the female connector is oriented correctly.

Figure 7.10: DIN connector

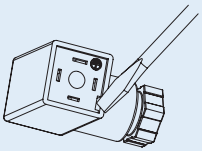


Figure 7.11: Connecting to EM port (LED Controller)

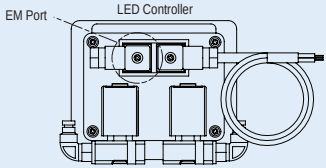


Figure 7.12: Connecting to EM port (DMC Controller)

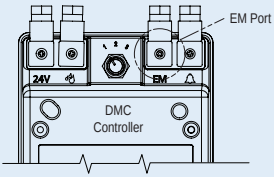
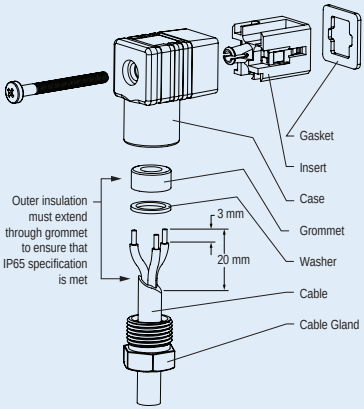


Figure 7.13: Din connector for LED and DMC Controller



Maintenance

Information

All maintenance information is provided in service / maintenance leaflets. These leaflets are provided with each serviceable item / kit showing how to carry out the change-out component. The service leaflet part numbers are shown below:-

04 1220 001 01 (Desiccant Cartridge service leaflet)

04 1220 002 01 (Purge Orifice disc service leaflet)

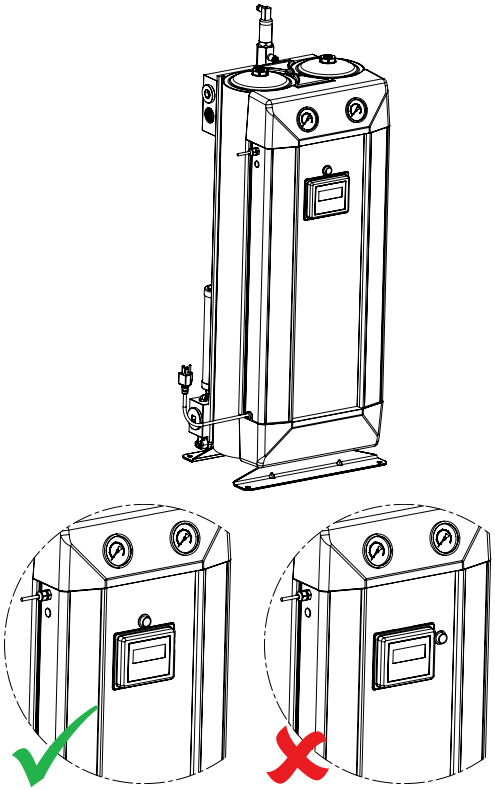
04 1220 003 01 (Exhaust Silencer service leaflet)

04 1220 004 01 (Main Shuttle service leaflet)

04 1220 005 01 (Exhaust Shuttle service leaflet)

Service Intervals / Applicable Service Kits	
Pre- Filter Element	Every 1 year or 6000 hours
Exhaust silencer	Every 1 year or 6000 hours
Desiccant cartridges	Every 2 years or 12000 hours
Main shuttle	Every 4 years or 24000 hours
Exhaust shuttle	Every 4 years or 24000 hours
Solenoid valves	Every 4 years or 24000 hours
Purge orifice	Every 4 years or 24000 hours

* *On Duplex models (PD220-360), it is recommended that the drainage silencers (item 22 on page 10), are removed, flushed with clean water and then re-installed*



Important information.

Ensure shutdown and start-up procedures are followed prior to carrying out any maintenance work on the dryer.

Walker Filtration will not accept responsibility for **physical injury, damage or delays caused by failure** to observe the instructions in this manual and manuals provided with your equipment.

Service kits

6,000 hours or 1 year, Silencer Service kit

Dryer Model	Kit Part Number	Description	Change-Out Period
PD0046 - PD0090	PD3SK01	Silencer Kit (Kit includes (2) silencers; reference figure 10.2)	6,000 Hours or 1 Year
PD0110 - PD0180	PD3SK02		
PD0220 - PD0360	PD3SK03		

12,000 hours or 2 years, Desiccant Cartridge & Silencer Service Kit

Dryer Model	Kit Part Number	Description	Change-Out Period
PD0046	PDSKS0046-12000	12,000 Hour Desiccant Cartridge and Silencer Kit (Kit includes desiccant cartridges and associated seals, and silencer service kit; reference figures 10.2, 10.3 and 10.4), supplied with cartridge removal tool	12,000 Hours or 2 Years
PD0056	PDSKS0056-12000		12,000 Hours or 2 Years
PD0075	PDSKS0075-12000		12,000 Hours or 2 Years
PD0090	PDSKS0090-12000		12,000 Hours or 2 Years
PD0110	PDSKS0110-12000		12,000 Hours or 2 Years
PD0150	PDSKS0150-12000		12,000 Hours or 2 Years
PD0180	PDSKS0180-12000		12,000 Hours or 2 Years
PD0220	PDSKS0220-12000		12,000 Hours or 2 Years
PD0300	PDSKS0300-12000		12,000 Hours or 2 Years
PD0360	PDSKS0360-12000		12,000 Hours or 2 Years

12,000 hours or 2 years, High Performance Desiccant Cartridge & Silencer Service Kit - for use where -74°C (-100°F) dewpoint is required

Dryer Model	Kit Part Number	Description	Change-Out Period
PD0046	PDSKS0046-12000-H	12,000 Hour High Performance Desiccant Cartridge and Silencer Kit (Kit includes High Performance desiccant cartridges and associated seals, and silencer service kit; reference figures 10.2, 10.3 and 10.4) supplied with cartridge removal tool	12,000 Hours or 2 Years
PD0056	PDSKS0056-12000-H		12,000 Hours or 2 Years
PD0075	PDSKS0075-12000-H		12,000 Hours or 2 Years
PD0090	PDSKS0090-12000-H		12,000 Hours or 2 Years
PD0110	PDSKS0110-12000-H		12,000 Hours or 2 Years
PD0150	PDSKS0150-12000-H		12,000 Hours or 2 Years
PD0180	PDSKS0180-12000-H		12,000 Hours or 2 Years
PD0220	PDSKS0220-12000-H		12,000 Hours or 2 Years
PD0300	PDSKS0300-12000-H		12,000 Hours or 2 Years
PD0360	PDSKS0360-12000-H		12,000 Hours or 2 Years

Service kits

12,000 hours or 2 years, Breathing Air Desiccant Cartridge & Silencer Service Kit - for use where -74°C (-100°F) dewpoint is required

Dryer Model	Kit Part Number	Description	Change-Out Period
PD0046	PDSKS0046-12000-B	12,000 Hour High Performance Desiccant Cartridge and Silencer Kit (Kit includes High Performance desiccant cartridges and associated seals, and silencer service kit; reference figures 10.2, 10.3 and 10.4) supplied with cartridge removal tool	12,000 Hours or 2 Years
PD0056	PDSKS0056-12000-B		12,000 Hours or 2 Years
PD0075	PDSKS0075-12000-B		12,000 Hours or 2 Years
PD0090	PDSKS0090-12000-B		12,000 Hours or 2 Years
PD0110	PDSKS0110-12000-B		12,000 Hours or 2 Years
PD0150	PDSKS0150-12000-B		12,000 Hours or 2 Years
PD0180	PDSKS0180-12000-B		12,000 Hours or 2 Years
PD0220	PDSKS0220-12000-B		12,000 Hours or 2 Years
PD0300	PDSKS0300-12000-B		12,000 Hours or 2 Years
PD0360	PDSKS0360-12000-B		12,000 Hours or 2 Years

18,000 hours or 3 years, Silencer Service kit

Dryer Model	Kit Part Number	Description	Change-Out Period
PD0046 - PD0090	PD3SK01	Silencer Kit (Kit includes (2) silencers; reference figure 10.2)	18,000 Hours or 3 Years
PD0110 - PD0180	PD3SK02		
PD0220 - PD0360	PD3SK03		

Service kits

Voltage	24,000 Hours or 4 years, Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit			
	Dryer Model	Kit Part Number	Description	Change-Out Period
DMC 24V	PD0046	PDSKS0046-24000-S24	24,000 hour Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit (Kit includes desiccant cartridges and associated seals; reference figures 10.3 and 10.4, silencer service kit; reference figures 10.2, and valve body stem and all associated seals; reference figures 10.6) supplied with cartridge removal tool	24,000 Hours or 4 Years
	PD0056	PDSKS0056-24000-S24		24,000 Hours or 4 Years
	PD0075	PDSKS0075-24000-S24		24,000 Hours or 4 Years
	PD0090	PDSKS0090-24000-S24		24,000 Hours or 4 Years
	PD0110	PDSKS0110-24000-S24		24,000 Hours or 4 Years
	PD0150	PDSKS0150-24000-S24		24,000 Hours or 4 Years
	PD0180	PDSKS0180-24000-S24		24,000 Hours or 4 Years
	PD0220	PDSKS0220-24000-D24		24,000 Hours or 4 Years
	PD0300	PDSKS0300-24000-D24		24,000 Hours or 4 Years
	PD0360	PDSKS0360-24000-D24		24,000 Hours or 4 Years
LED 115V	PD0046	PDSKS0046-24000-S115	24,000 hour Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit (Kit includes desiccant cartridges and associated seals; reference figures 10.3 and 10.4, silencer service kit; reference figures 10.2, and valve body stem and all associated seals; reference figures 10.6) supplied with cartridge removal tool	24,000 Hours or 4 Years
	PD0056	PDSKS0056-24000-S115		24,000 Hours or 4 Years
	PD0075	PDSKS0075-24000-S115		24,000 Hours or 4 Years
	PD0090	PDSKS0090-24000-S115		24,000 Hours or 4 Years
	PD0110	PDSKS0110-24000-S115		24,000 Hours or 4 Years
	PD0150	PDSKS0150-24000-S115		24,000 Hours or 4 Years
	PD0180	PDSKS0180-24000-S115		24,000 Hours or 4 Years
	PD0220	PDSKS0220-24000-D115		24,000 Hours or 4 Years
	PD0300	PDSKS0300-24000-D115		24,000 Hours or 4 Years
	PD0360	PDSKS0360-24000-D115		24,000 Hours or 4 Years
LED 230V	PD0046	PDSKS0046-24000-S230	24,000 hour Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit (Kit includes desiccant cartridges and associated seals; reference figures 10.3 and 10.4, silencer service kit; reference figures 10.2, and valve body stem and all associated seals; reference figures 10.6) supplied with cartridge removal tool	24,000 Hours or 4 Years
	PD0056	PDSKS0056-24000-S230		24,000 Hours or 4 Years
	PD0075	PDSKS0075-24000-S230		24,000 Hours or 4 Years
	PD0090	PDSKS0090-24000-S230		24,000 Hours or 4 Years
	PD0110	PDSKS0110-24000-S230		24,000 Hours or 4 Years
	PD0150	PDSKS0150-24000-S230		24,000 Hours or 4 Years
	PD0180	PDSKS0180-24000-S230		24,000 Hours or 4 Years
	PD0220	PDSKS0220-24000-D230		24,000 Hours or 4 Years
	PD0300	PDSKS0300-24000-D230		24,000 Hours or 4 Years
	PD0360	PDSKS0360-24000-D230		24,000 Hours or 4 Years

Service kits

Voltage	**24,000 Hours** or 4 years, **High Performance Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit** For use where -74°C (-100°F) dewpoint is required			
	Dryer Model	Kit Part Number	Description	Change-Out Period
DMC 24V	PD0046	PDSKS0046-24000-S24-H	24,000 hour High Performance Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit (Kit includes desiccant cartridges and associated seals; reference figures 10.3 and 10.4, silencer service kit; reference figures 10.2, and valve body stem and all associated seals; reference figures 10.6) supplied with cartridge removal tool	24,000 Hours or 4 Years
	PD0056	PDSKS0056-24000-S24-H		24,000 Hours or 4 Years
	PD0075	PDSKS0075-24000-S24-H		24,000 Hours or 4 Years
	PD0090	PDSKS0090-24000-S24-H		24,000 Hours or 4 Years
	PD0110	PDSKS0110-24000-S24-H		24,000 Hours or 4 Years
	PD0150	PDSKS0150-24000-S24-H		24,000 Hours or 4 Years
	PD0180	PDSKS0180-24000-S24-H		24,000 Hours or 4 Years
	PD0220	PDSKS0220-24000-D24-H		24,000 Hours or 4 Years
	PD0300	PDSKS0300-24000-D24-H		24,000 Hours or 4 Years
	PD0360	PDSKS0360-24000-D24-H		24,000 Hours or 4 Years
LED 115V	PD0046	PDSKS0046-24000-S115-H	24,000 hour High Performance Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit (Kit includes desiccant cartridges and associated seals; reference figures 10.3 and 10.4, silencer service kit; reference figures 10.2, and valve body stem and all associated seals; reference figures 10.6) supplied with cartridge removal tool	24,000 Hours or 4 Years
	PD0056	PDSKS0056-24000-S115-H		24,000 Hours or 4 Years
	PD0075	PDSKS0075-24000-S115-H		24,000 Hours or 4 Years
	PD0090	PDSKS0090-24000-S115-H		24,000 Hours or 4 Years
	PD0110	PDSKS0110-24000-S115-H		24,000 Hours or 4 Years
	PD0150	PDSKS0150-24000-S115-H		24,000 Hours or 4 Years
	PD0180	PDSKS0180-24000-S115-H		24,000 Hours or 4 Years
	PD0220	PDSKS0220-24000-D115-H		24,000 Hours or 4 Years
	PD0300	PDSKS0300-24000-D115-H		24,000 Hours or 4 Years
	PD0360	PDSKS0360-24000-D115-H		24,000 Hours or 4 Years
LED 230V	PD0046	PDSKS0046-24000-S230-H	24,000 hour High Performance Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit (Kit includes desiccant cartridges and associated seals; reference figures 10.3 and 10.4, silencer service kit; reference figures 10.2, and valve body stem and all associated seals; reference figures 10.6) supplied with cartridge removal tool	24,000 Hours or 4 Years
	PD0056	PDSKS0056-24000-S230-H		24,000 Hours or 4 Years
	PD0075	PDSKS0075-24000-S230-H		24,000 Hours or 4 Years
	PD0090	PDSKS0090-24000-S230-H		24,000 Hours or 4 Years
	PD0110	PDSKS0110-24000-S230-H		24,000 Hours or 4 Years
	PD0150	PDSKS0150-24000-S230-H		24,000 Hours or 4 Years
	PD0180	PDSKS0180-24000-S230-H		24,000 Hours or 4 Years
	PD0220	PDSKS0220-24000-D230-H		24,000 Hours or 4 Years
	PD0300	PDSKS0300-24000-D230-H		24,000 Hours or 4 Years
	PD0360	PDSKS0360-24000-D230-H		24,000 Hours or 4 Years

Service kits

Voltage	**24,000 Hours** or 4 years,**Breathing Air Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit** For use where -74°C (-100°F) dewpoint is required			
	Dryer Model	Kit Part Number	Description	Change-Out Period
DMC 24V	PD0046	PDSKS0046-24000-S24-B	24,000 hour High Performance Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit (Kit includes desiccant cartridges and associated seals; reference figures 10.3 and 10.4, silencer service kit; reference figures 10.2, and valve body stem and all associated seals; reference figures 10.6) supplied with cartridge removal tool	24,000 Hours or 4 Years
	PD0056	PDSKS0056-24000-S24-B		24,000 Hours or 4 Years
	PD0075	PDSKS0075-24000-S24-B		24,000 Hours or 4 Years
	PD0090	PDSKS0090-24000-S24-B		24,000 Hours or 4 Years
	PD0110	PDSKS0110-24000-S24-B		24,000 Hours or 4 Years
	PD0150	PDSKS0150-24000-S24-B		24,000 Hours or 4 Years
	PD0180	PDSKS0180-24000-S24-B		24,000 Hours or 4 Years
	PD0220	PDSKS0220-24000-D24-B		24,000 Hours or 4 Years
	PD0300	PDSKS0300-24000-D24-B		24,000 Hours or 4 Years
	PD0360	PDSKS0360-24000-D24-B		24,000 Hours or 4 Years
LED 115V	PD0046	PDSKS0046-24000-S115-B	24,000 hour High Performance Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit (Kit includes desiccant cartridges and associated seals; reference figures 10.3 and 10.4, silencer service kit; reference figures 10.2, and valve body stem and all associated seals; reference figures 10.6) supplied with cartridge removal tool	24,000 Hours or 4 Years
	PD0056	PDSKS0056-24000-S115-B		24,000 Hours or 4 Years
	PD0075	PDSKS0075-24000-S115-B		24,000 Hours or 4 Years
	PD0090	PDSKS0090-24000-S115-B		24,000 Hours or 4 Years
	PD0110	PDSKS0110-24000-S115-B		24,000 Hours or 4 Years
	PD0150	PDSKS0150-24000-S115-B		24,000 Hours or 4 Years
	PD0180	PDSKS0180-24000-S115-B		24,000 Hours or 4 Years
	PD0220	PDSKS0220-24000-D115-B		24,000 Hours or 4 Years
	PD0300	PDSKS0300-24000-D115-B		24,000 Hours or 4 Years
	PD0360	PDSKS0360-24000-D115-B		24,000 Hours or 4 Years
LED 230V	PD0046	PDSKS0046-24000-S230-B	24,000 hour High Performance Desiccant Cartridge, Silencer, Valve & Purge Valve Service Kit (Kit includes desiccant cartridges and associated seals; reference figures 10.3 and 10.4, silencer service kit; reference figures 10.2, and valve body stem and all associated seals; reference figures 10.6) supplied with cartridge removal tool	24,000 Hours or 4 Years
	PD0056	PDSKS0056-24000-S230-B		24,000 Hours or 4 Years
	PD0075	PDSKS0075-24000-S230-B		24,000 Hours or 4 Years
	PD0090	PDSKS0090-24000-S230-B		24,000 Hours or 4 Years
	PD0110	PDSKS0110-24000-S230-B		24,000 Hours or 4 Years
	PD0150	PDSKS0150-24000-S230-B		24,000 Hours or 4 Years
	PD0180	PDSKS0180-24000-S230-B		24,000 Hours or 4 Years
	PD0220	PDSKS0220-24000-D230-B		24,000 Hours or 4 Years
	PD0300	PDSKS0300-24000-D230-B		24,000 Hours or 4 Years
	PD0360	PDSKS0360-24000-D230-B		24,000 Hours or 4 Years

Accessory kits

Solenoid Kit 10.5)		(Kit includes (2) solenoid control valves with attached tube fittings; reference figure
Dryer Model	Kit Part Number	Description
PD0046 - PD0360	PD3SKV024	24VDC Solenoid Kit
PD0046 - PD0360	PD3SKV115	115V Solenoid Kit
PD0046 - PD0360	PD3SKV230	240V Solenoid Kit

Shuttle Service Kit reference figure 10.2)		(Kit includes (1) control shuttle, (2) exhaust shuttles and associated seals;
Dryer Model	Kit Part Number	Description
PD0046 - PD0180	PD3SKS01	Simplex Shuttle Service Kit
PD0220 - PD0360	PD3SKD01	Duplex Shuttle Service Kit

Controller kit figure 10.5)		(Kit includes (1) controller and (2) control solenoid valves with installed tube fittings; reference
Dryer Model	Kit Part Number	Description
PD0046 - PD0360	PD3CK024	24VDC Controller Complete with Valves
PD0046 - PD0360	PD3CK110	110V Controller Complete with Valves
PD0046 - PD0360	PD3CK240	240V Controller Complete with Valves

Purge Orifice (complete)		Complete kit for dryers operating between 4 and 13 barg and appropriate purge orifice discs, fully assembled; reference figure 10.6
Dryer Model	Kit Part Number	Description
PD0046	PD3PPK1	PD0046 - PD0056 Purge valve kit
PD0056		
PD0075	PD3PPK2	PD0075 - PD0110 Purge valve kit
PD0090		
PD0110		
PD0150	PD3PPK3	PD0150 Purge valve kit
PD0180	PD3PPK4	PD0180 Purge valve kit
PD0220	PD3PPK5	PD0220-PD0300 Purge valve kit
PD0300		
PD0360	PD3PPK6	PD0360 Purge valve kit

Purge disc kit 10.6)		(Kit includes (1) ea discs 01, 02, 03 and 04; reference figure
Dryer Model	Kit Part Number	Description
PD0046 - PD0360	PD3PDK4	Purge orifice disc kit

Hygrometer Kit		(Kit includes hygrometer only)
Dryer Model	Kit Part Number	Description
PD0046 - PD0360	PD3HK01	Hygrometer Kit

Drain Valve Kit (Kit includes (1) solenoid drain valve with attached female DIN connector)		
Dryer Model	Kit Part Number	Description
PD0046 - PD0360	PD3DVS01	Drain Valve Kit

Din Plug Kit (Kit includes (1), 3 pole + ground industrial standard DIN connector)		
Dryer Model	Kit Part Number	Description
PD0046 - PD0360	PD3DIN01	Female DIN plug kit

Power Supply Kit		(Kit includes power supply and DIN connector)
Dryer Model	Kit Part Number	Description
PD0046 - PD0360	PD3PSK01	Power Supply Unit: 100-240V to 24VDC Power Supply Lead (24VDC DMC controller only)

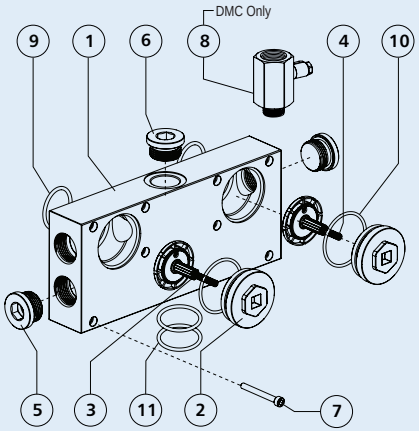
Although the power supply is supplied separately as an accessory and meets the required CE and UL approval, it is the responsibilty of a competent person installing the equipment that all local installation regulations are adhered to.

Master seal kit (Kit includes all seals (except purge orifice seals); reference figures 10.1, 10.2, 10.3 and 10.4		
Dryer Model	Kit Part Number	Description
PD0046 - PD0180	PD3MSKS	Simplex master seal kit
PD0220 - PD0360	PD3MSKD	Duplex master seal kit

Component parts

PD0046 - PD0360

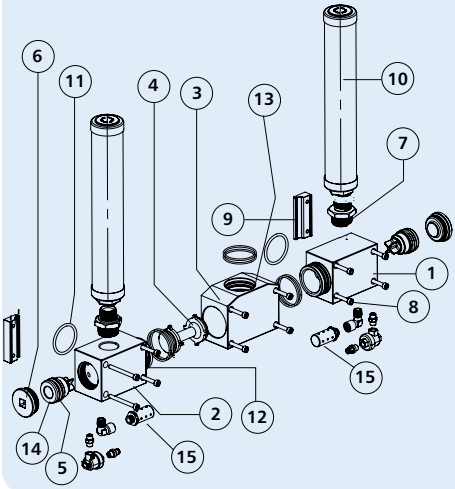
Fig 10.1 Top manifold assembly



Itm	Description	Qty	Included in Service / Accessory Kit: Master Seal Duplex or Simplex
1	Inlet / outlet manifold	1	
2	Purge valve service plug	2	
3	Purge control valve	2	See figure 10.6
4	Valve control spring	2	
5	Inlet/outlet blanking plug	2	
6	Hyg port blanking plug	1	
7	Manifold fixing bolts	8	
8	Hygrometer sample block*	1	
9	Manifold connection O-ring	2	✓
10	Valve service plug O-ring	2	✓
11	Down tube O-ring	2	✓

* Duplex Only

Fig 10.2 Bottom manifold assembly



Itm	Description	Qty	Included in Service / Accessory Kit: Valve Service	Shuttle Service	Silencer	Master Seal
1	RH exhaust manifold	1				
2	LH exhaust manifold	1				
3	Centre shuttle manifold	1				
4	Control shuttle	1	✓	✓		
5	Exhaust control valve	2	✓	✓		
6	Valve service plug	2				
7	Silencer adapter	2				
8	Manifold fixing bolt*	8/12				
9	Duplex fixing clip	2				
10	Silencer	2			✓	
11	Manifold connection O-ring	2	✓	✓		✓
12	Exhaust manifold O-ring	4	✓	✓		✓
13	Down tube O-ring	2				✓
14	Valve Service Plug O-ring	2	✓	✓		✓
15	Drainage Silencers	2				

* 8 for Simplex / 12 for Duplex

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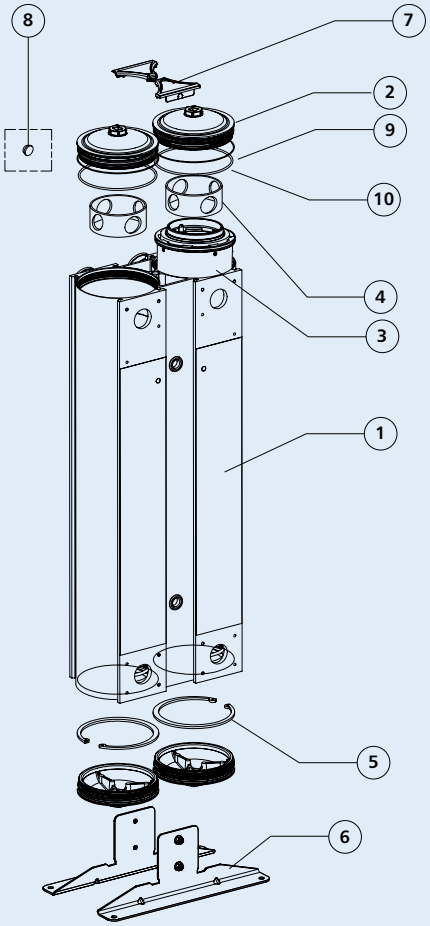
Fig 10.3 Tower assembly (Simplex)



Itm	Description	Qty	Included in Service / Accessory Kit: Desiccant Cartridge	Included in Service / Accessory Kit: Master Seal
1	Tower extrusion	1		
2	Extrusion tower plug	2		
3	Desiccant cartridge*	2/4	✓	
4	Cartridge spacer	2		
5	Support circlip	2		
6	Floor mounting bracket	2		
7	Trim caps	2		
8	Controller reset magnet	1	✓	
9	Service cap outer O-ring	4	✓	✓
10	Service cap inner O-ring	4	✓	✓

* Quantity varies per dryer model

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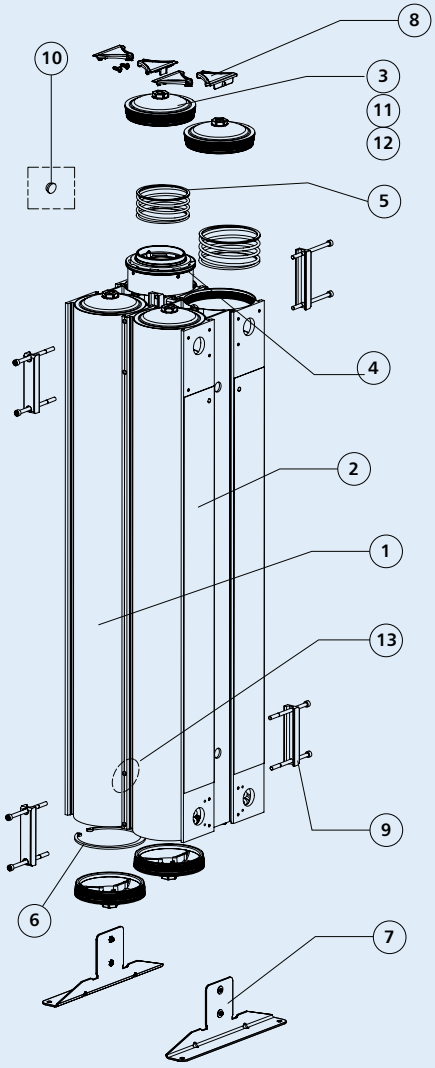
Fig 10.4 Tower assembly (Duplex)



Itm	Description	Qty	Included in Service / Accessory Kit: Desiccant Cartridge	Included in Service / Accessory Kit: Master Seal
1	Tower extrusion (Front)	1		
2	Tower extrusion (Rear)	1		
3	Extrusion tower plug	8		
4	Desiccant cartridge	8	✓	
5	Cartridge spacer	4		
6	Support circlip	4		
7	Floor mounting bracket	2		
8	Trim caps	4		
9	Clamp assembly	4		
10	Controller reset magnet	1		
11	Service cap outer O-ring	4	✓	✓
12	Service cap inner O-ring	4	✓	✓
13	Extrusion O-ring	4		

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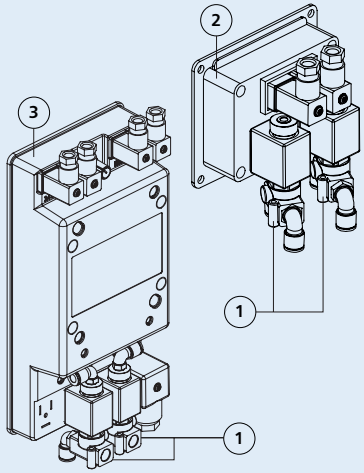
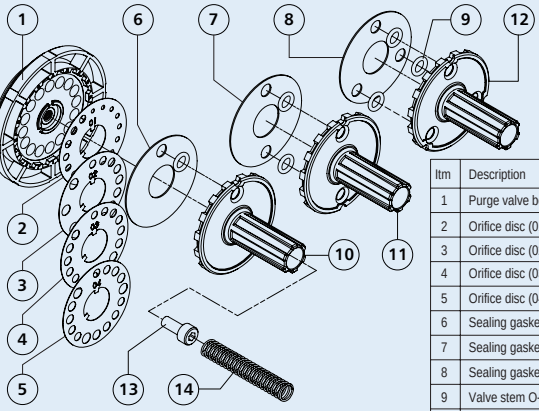
Fig 10.5 Controller assemblies



Itm	Description	Qty	Included in Service /Accessory Kit: Valve Service	Solenoid	Controller**
1	Solenoid control valves*	2	✓	✓	✓
2	LED controller	1			✓
3	DMC controller	1			✓

* Includes installed tube fittings
** Specify which controller model and/or voltage when ordering

Fig 10.6 Purge valve assembly



Itm	Description	Qty	Included in Service / Accessory Kit: Purge Valve Body (1 Hole)	Purge Valve Body (2 Hole)	Purge Valve Body (3 Hole)	Purge Orifice Disc
1	Purge valve body	1	✓	✓	✓	
2	Orifice disc (01)	1				✓
3	Orifice disc (02)	1				✓
4	Orifice disc (03)	1				✓
5	Orifice disc (04)	1				✓
6	Sealing gasket (1 Hole)	1	✓			
7	Sealing gasket (2 Hole)	1		✓		
8	Sealing gasket (3 Hole)	1			✓	
9	Valve stem O-ring	1/2/3	✓	✓	✓	
10	Valve stem (1 Hole)	1	✓			
11	Valve stem (2 Hole)	1		✓		
12	Valve stem (3 Hole)	1			✓	
13	M4 screw	1				
14	Valve control spring	1				

Troubleshooting

General troubleshooting

Before specific identification of any fault is looked for, the following general points must be verified:

- *Has the unit been damaged externally or are any parts missing?*
- *Is power being supplied to the unit?*
- *Was start-up carried out in accordance with the instructions in this manual?*
- *Are all external valves correctly set for operation?*
- *Do the operational conditions meet those specified at time of ordering and used for product selection?*
- *Did the dryer operate normally for a period of time before the problem occured?*

Before calling for service assistance, please obtain dryer model and serial number from dryer specification label.

Troubleshooting: General

Problem	Possible Cause	Action
Poor dewpoint	Liquid water at dryer inlet	Check pre-filtration and drains
	Excessive flow	Check actual flow against maximum specified
	Low inlet pressure	Check against specification
	High inlet temperature	Check against specification
	Incorrect purge orifice size	Check against specification and reconfigure
	Silencer blocked or damaged	Replace silencer
	Air leaks	Tighten joints or fit new seals
	Desiccant life exceeded	Replace desiccant cartridges
	Desiccant contaminated	Check inlet filter and drains, replace cartridges
	EM is active when air is flowing through dryer	Check EM wiring, DMC and/or control method used
	Power to dryer off while air is flowing through dryer	Ensure that power is on whenever air is flowing through dryer
Incorrect dryer operation, won't switch towers	Jammed shuttle valves	Clean or replace shuttles
	Faulted electrical components	See electrical operation troubleshooting section
Incorrect dryer operation, won't depressurise towers	Jammed purge exhaust shuttle	Clean or replace exhaust shuttles and solenoid valves
	Blocked and/or damaged silencer	Replace silencer
Excessive or loud purge, or purge on only one tower	Jammed main control shuttle valve	Clean or replace shuttles
	Jammed purge exhaust shuttle	Clean or replace exhaust shuttles
	Faulty solenoid valve	Clean or replace solenoid valve
	Not utilising Energy Management feature	Refer to Energy Management instructions (Section 7)
	Blocked and/or damaged silencer	Replace silencer and check desiccant cartridges
	Damaged purge valve(s)	Replace purge valve bodies
	Incorrect purge orifice size	Double check and select correct size

Troubleshooting: Electrical

Problem	Possible Cause	Action
No dryer function	No power supply	Check supply
	Power connected to wrong controller input	Check connections with specifications listed in Section 5
	Faulty controller	Replace controller
Dryer does not activate external alarm when display panel indicates alarm condition	Shorted or incorrect device wiring	Correct external wiring
	External power not supplied	Add external power source per specifications given in Section 5
	Faulty external indication device	Repair or replace device
	Faulty controller	Replace controller

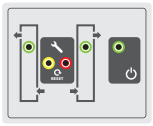
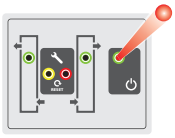
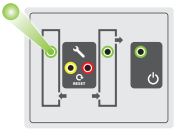
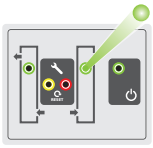
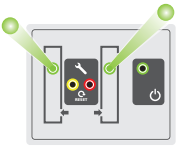
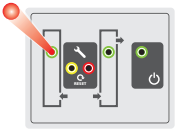
Troubleshooting: Energy Management

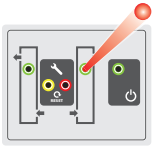
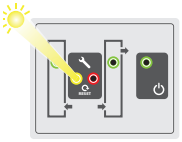
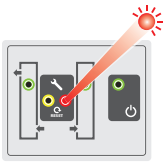
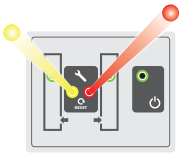
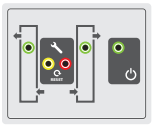
Problem	Possible Cause	Action
Dryer does not enter Energy Management when switching device is activated *and/or* Dryer does not enter Energy Management when EM contacts are opened.	Shorted or incorrect device wiring	Remove external wiring from the dryer's EM contacts: · On LED controllers, dryer should enter EM mode. · On DMC controllers, place jumper between pins 1 and 2 of EM male connector. Dryer should enter EM mode. · If dryer enters EM mode, correct external wiring problem · If dryer does not enter EM mode, replace controller
	Faulty switching device	Consult device manufacturer
	Faulty controller output	Replace controller

Troubleshooting: Dewpoint control (DMC Controller only)

Problem	Possible Cause	Action
Dryer does not enter dewpoint mode	Hygrometer Din plug not connected correctly to hygrometer	Check Din plug is tightly connected to hygrometer with the Din plug
	Demand is too high, dryer undersized	Check against specification
	Hygrometer not reading accurately / fouled	Verify hygrometer calibration
	Hygrometer failed (electrically)	Replace hygrometer
Dryer controller displaying hygrometer out of range	Hygrometer is reading an outlet dewpoint of either +20°C or -100°C which is the maximum limits of the hygrometer	Check hygrometer is functioning correctly and not damaged

Troubleshooting - LED Display Status Identification

LED Identification	Function	Indication	Remark
N/A	Power Off		Power supply disconnected
Z	Power On		
X	Left tower 'Online'		Left tower drying
Y	Right tower 'Online'		Right tower drying
X & Y	Both towers 'Online'		One tower drying, the other tower repressurising
X	Left solenoid failure		Clean or replace solenoid

LED Number	Function	Indication	Remark
Y	Right solenoid failure		Clean or replace solenoid
1	Service warning		11500 hours continuous operation
2	Service alarm		12000 hours continuous operation
1 & 2	Controller reset		Activated when the reset magnet is applied
N/A	Power Failure		Replace controller

Function	Indication	Remark
Full DMC message layout	Line message 1 Line message 2 Line message 3 Line message 4	
Dryer functioning in standard running mode	Line message 1: STANDARD RUNNING MODE Line message 2: - Line message 3: HOURS RUN XXXXX Line message 4: SERVICE HISTORY # XX	
Dryer functioning in standard running mode (service due)	Line message 1: STANDARD RUNNING MODE Line message 2: - Line message 3: SERVICE DUE (XXX HOURS) Line message 4: SERVICE HISTORY # XX	Service due (500 hour countdown until 12000 hours continuous operation)
Dryer functioning in standard running mode (service overdue)	Line message 1: STANDARD RUNNING MODE Line message 2: - Line message 3: SERVICE OVERDUE Line message 4: SERVICE HISTORY # XX	Service overdue (12000 hours continuous operation)
Energy management mode active	Line message 1: ENERGY MANAGEMENT MODE Line message 2: - Line message 3: HOURS RUN XXXXX Line message 4: SERVICE HISTORY # XX	
Energy management mode active (service due)	Line message 1: ENERGY MANAGEMENT MODE Line message 2: - Line message 3: SERVICE DUE (XXX HOURS) Line message 4: SERVICE HISTORY # XX	Service due (500 hour countdown until 12000 hours continuous operation)
Energy management mode active (service overdue)	Line message 1: ENERGY MANAGEMENT MODE Line message 2: - Line message 3: SERVICE OVERDUE Line message 4: SERVICE HISTORY # XX	Service overdue (12000 hours continuous operation)

Function	Indication	Remark
Dewpoint mode active (-20) or Dewpoint mode active (-40) or Dewpoint mode active (-74)	Line message 1: DEWPOINT MODE (-20) (-40) (-74) Line message 2: DRYER DEWPOINT -XXX PDP Line message 3: HOURS RUN XXXXX Line message 4: SERVICE HISTORY # XX	Dewpoint mode active but dryer in standard cycle mode
Dewpoint hold active (-20) or Dewpoint hold active (-40) or Dewpoint hold active (-74)	Line message 1: DEWPOINT HOLD (-20) (-40) (-74) Line message 2: DRYER DEWPOINT -XXX PDP Line message 3: HOURS RUN XXXXX Line message 4: SERVICE HISTORY # XX	Dewpoint hold active purge flow has been isolated
Dewpoint mode active (-20) – service due or Dewpoint mode active (-40) – service due or Dewpoint mode active (-74) – service due	Line message 1: DEWPOINT MODE (-20) (-40) (-74) Line message 2: DRYER DEWPOINT -XXX PDP Line message 3: SERVICE DUE (XXX HOURS) Line message 4: SERVICE HISTORY # XX	Dewpoint mode active but dryer in standard cycle mode (500 hour countdown until 12000 hours continuous operation)
Dewpoint mode active (-20) – service overdue or Dewpoint mode active (-40) – service overdue or Dewpoint mode active (-74) – service overdue	Line message 1: DEWPOINT MODE (-20) (-40) (-74) Line message 2: DRYER DEWPOINT -XXX PDP Line message 3: SERVICE OVERDUE Line message 4: SERVICE HISTORY # XX	Dewpoint mode active, dryer in standard cycle mode (12000 hours continuous operation)
Dewpoint hold active (-20) – service due or Dewpoint hold active (-40) – service due or Dewpoint hold active (-74) – service due	Line message 1: DEWPOINT HOLD (-20) (-40) (-74) Line message 2: DRYER DEWPOINT -XXX PDP Line message 3: SERVICE DUE (XXX HOURS) Line message 4: SERVICE HISTORY # XX	Dewpoint hold active, purge flow has been isolated – 500 hour countdown until 12000 hours continuous operation
Dewpoint hold active (-20) – service overdue or Dewpoint hold active (-40) – service overdue or Dewpoint hold active (-74) – service overdue	Line message 1: DEWPOINT HOLD (-20) (-40) (-74) Line message 2: DRYER DEWPOINT -XXX PDP Line message 3: SERVICE OVERDUE Line message 4: SERVICE HISTORY # XX	Dewpoint hold active, purge flow has been isolated – 12000 hours continuous operation
Hygrometer out of range	Line message 1: XXXXXXXXXXXXXX Line message 2: XXXXXXXXXXXXXXXXXXXX Line message 3: XXXXXXXXXXXXXXXXXXXX Line message 4: HYGROMETER OUT OF RANGE	Check din plug and wiring connections between hygrometer and Dryer controller

Warranties and liabilities

Claims for warranty and liability concerning personal injury or material damage are excluded if they resulted due to one or more of the following factors:

- *Inappropriate use.*
- *Inappropriate application of the dryer.*
- *Technically incorrect installation, start-up operation or maintenance of the dryer.*
- *Operation of a known damaged dryer.*
- *Failure to observe the information given in this manual concerning all life phases of the dryer.*
- *Undertaking constructional or operational modifications to the dryer without prior agreement with Walker Filtration.*
- *Inadequate monitoring and replacement of components of the dryer that are subject to wear.*
- *Improper completion of repairs.*
- *Use of non-original or non-approved parts for service or maintenance.*

The warranty of this product could become void if the **correct filtration is not installed upstream of the dryer. It is recommended that the inlet filtration upstream of the dryer consists of a WS, X1 then XA. However, it is essential that a WS followed by a XA is used**

Important Note

Industrial Compressed Air Desiccant Dryers

The Walker Filtration Ltd desiccant dryer range is designed for, warrantied and intended for use in fixed industrial compressed air applications only.

Use on non-fixed installations such as :

- *marine (e.g. offshore, shipboard)*
- *transportable (e.g. portable air treatment units)*
- *non-fixed (e.g. rolling stock, railway etc)*

are not strictly prohibited, however use in such applications is not recommended nor endorsed as additional design features, function testing, certification (both mechanical and electrical) and validation may be required to satisfy relevant end user application specific specifications and/or mandatory and non-mandatory local, national or international standards and legislation.

Such additional undertakings are the responsibility of **the package or system builder, installer or end user.**

Declaration of Conformity

2014/30/EU, 2014/35/EU, 2014/68/EU, UK S.I. 2016 No. 1101, UK S.I. 2016 No. 1091, UK S.I. 2016 No. 1105		
Name of Manufacturer	Walker Filtration Ltd.	
Address of Manufacturer	Birtley Road, Washington, Tyne & Wear, NE38 9DA, England.	
Description of Product	PRODRY Compressed Air Desiccant Dryers	
Designation of Product	PD0046, PD0056, PD0075, PD0090, PD0110, PD0150, PD0180, PD0220, PD0300, PD0360	
Standards Used Harmonised Standards* applied where available — with alternatives specified where harmonised standards do not exist.	LVD: 2014/35/EU UK S.I. 2016 No. 1101 – The Electrical Equipment (Safety) Regulations 2016	EN 60204-1: 2006+a1: 2009 EN 61010-2-202:2017 (section 14.101)
	EMC: 2014/30/EU UK S.I. 2016 No. 1091 - The Electromagnetic Compatibility Regulations 2016	EN 61000-6-2:2005+AC:2005* EN 61000-6-3:2007+A1:2011+AC:2011*
	PED: 2014/68/EU UK S.I. 2016 No. 1105 - The Pressure Equipment (Safety) Regulations 2016	Generally in accordance with ASME VIII Division 1 Rules for Construction of Pressure Vessels
UKCA - Conformity Assessment Body (CAB)* UK S.I. 2016 No. 1105 - The Pressure Equipment (Safety) Regulations 2016 *Applicable to CAT II & III items	LRQA verification Ltd 1 Trinity park, Bickenhall lane, Birmingham, B37 7ES, UK Conformity Assessment Body No. 0038	
Notified Body (NoBo)* Pressure Equipment Directive (PED) Only *Applicable to CAT II & III items	LRQA Deutschland GmbH, Überseeallee 10, 20457 Hamburg, Germany Notified Body No 0525	
Conformity Assessment Module Pressure Equipment Directive (PED) Only	PD0046-PD0180: Cat II Module D1 - [50348/2] PD0220-PD0360: Cat III Module B1 [0525-PED-DE-HAM1963353-2]**+ D [50348/1] **Module B1 certificate issued by conformity assessment body under directive 97/23/EC and remains valid under the new directive as defined in 2014/68/EU Article 48.	
Quality Assurance System	ISO 9001 Certificate Number 10354671 LRQA Ltd 1 Trinity Park, Bickenhill Lane, Birmingham, B37 7ES, United Kingdom	
Year of Manufacture	Refer to product marking	
Name of Authorised Representative	Michael Thompson	
Position of Authorised Representative	Chief Design Officer	
	This declaration of conformity is issued under the sole responsibility of the manufacturer. I declare on behalf of Walker Filtration Ltd (the manufacturer) and as authorised representative, that the above stated products fulfil the requirements of the new approach directives	
	August 2022	

Walker Filtration Ltd
Birtley Road, Washington, Tyne & Wear, NE38 9DA, UK
tel +44 (0) 191 417 7816 **fax** +44 (0) 191 415 3748
email sales@walkerfiltration.co.uk **web** www.walkerfiltration.com

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