



domnick hunter



PNEUDRI MINI and MIDIPLUS

DM and DME ranges of
Desiccant Compressed Air Dryers

Clean Dry Oil-Free Compressed Air



Compressed Air contains Water, Oil and Dirt

The Problem

Compressed air is an essential power source that is widely used throughout industry. This safe, powerful and reliable utility can be the most important part of your production process. However, your compressed air will contain water, dirt, wear particles, bacteria and even degraded lubricating oil which all mix together to form an unwanted abrasive sludge.

This sludge, often acidic, rapidly wears pneumatic machinery, blocks valves and orifices causing high maintenance and costly air leaks. It also corrodes piping systems and can bring your production process to an extremely expensive standstill!



Corrosion



Unwanted Abrasive Sludge



Damaged Tools

The Solution

All of these costly problems can be simply avoided by installing a **domnick hunter PNEUDRI MINI** or **MIDI_{PLUS}** High Efficiency Compressed Air Dryer package fitted with **OIL-X_{PLUS}** filtration. The packages are suitable for use with any compressor type and are suited to point of use applications.

PNEUDRI totally cleans and dries compressed air down to -40°C (-40°F) dp as standard - (ISO8573.1 Class 1.2.1). For critical applications, **PNEUDRI** can be supplied with a dewpoint of -70°C (-100°F) dp (ISO8573.1 Class 1.1.1). Based on well proven designs and principles, **PNEUDRI** embodies true innovation and excellent value for money. Technically superior yet simple by design, **PNEUDRI** leads the way in compressed air drying.

Clean
Dry
Oil-Free
Compressed
Air

How **PNEUDRI MINI** and **MIDI_{PLUS}** Works

PNEUDRI comprises of a high tensile extruded aluminium column containing twin chambers filled with desiccant material which dries the compressed air as it passes through. One chamber is operational (drying), whilst the opposite chamber is regenerating using the Pressure Swing Adsorption (PSA) method of drying.

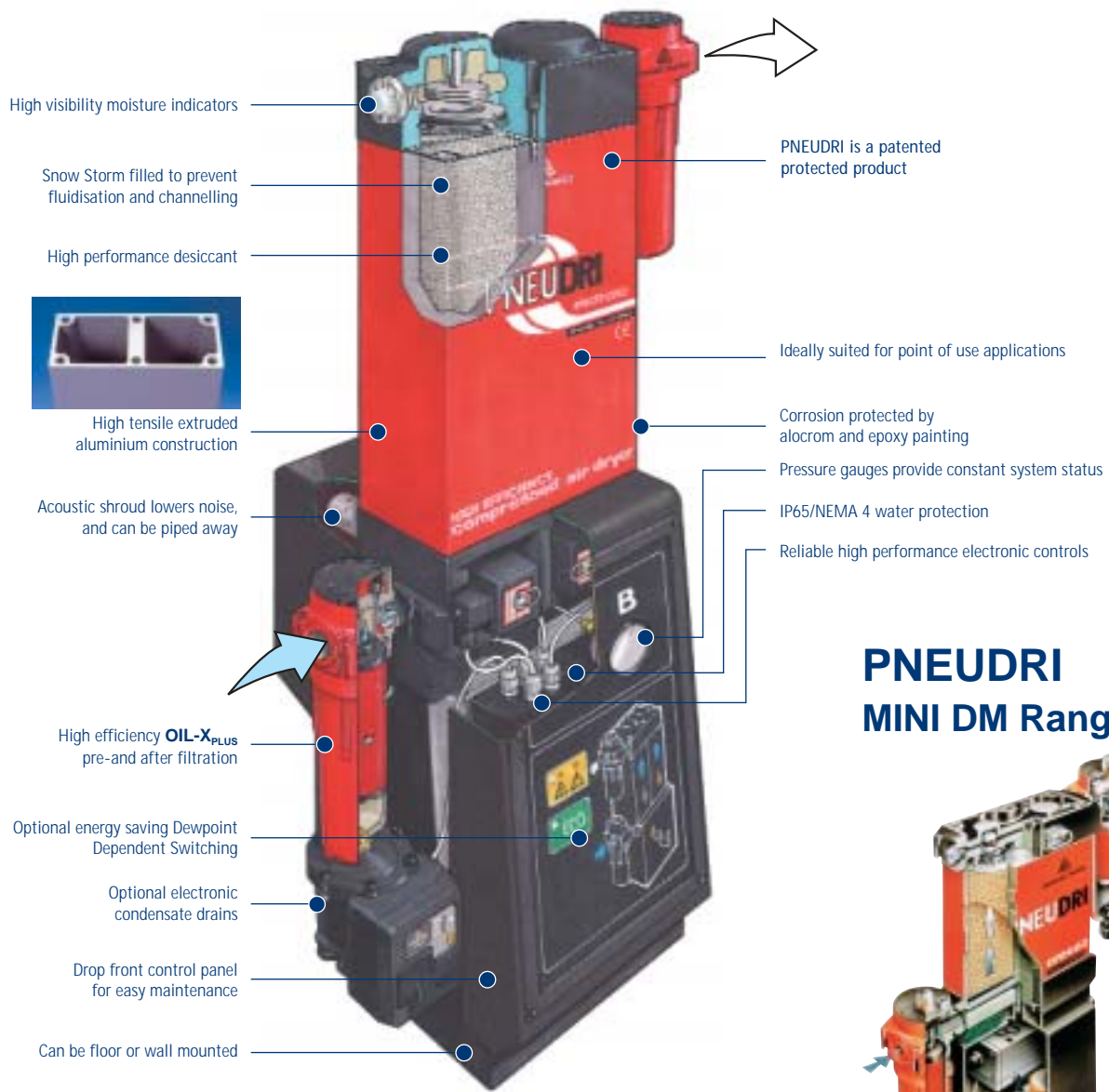
A small amount of the dried compressed air is used to regenerate the saturated desiccant bed by expanding air from line pressure to atmospheric pressure, removing the moisture adsorbed by the desiccant material, and therefore regenerating the dryer.

Benefits

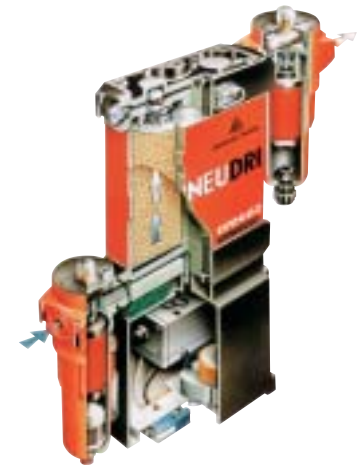
- Clean, dry and oil-free compressed air
- Totally stops corrosion and damage
- Can be installed in less than one hour
- Compact and lightweight
- Simple maintenance
- Dewpoint Dependent Switching option (retrofitable to **PNEUDRI MIDI_{PLUS}** only)



PNEUDRI MID_IPLUS DME Range



PNEUDRI MINI DM Range



Dewpoint Dependent Switching (DDS) Energy Management System

Up to 80% of compressed air dryer energy can be saved by selecting the Dewpoint Dependent Switching option. By directly monitoring the outlet air quality (dewpoint) of the dryer, the system can automatically extend the 'drying period' beyond a normally fixed time cycle if the on-line drying chamber has adsorptive capacity remaining.

As compressed air systems rarely operate at full rated capacity all of the time, (e.g. during shiftwork and periods of low demand), the energy management system can provide considerable savings.

DURING THIS EXTENDED PERIOD OF ENERGY FREE DRYING, NO PURGE AIR ENERGY IS CONSUMED FOR REGENERATION.

This compact energy management system can be specified with any **PNEUDRI MID_IPLUS** compressed air dryer package, and may also be retrofitted.

Technical Specifications

Flow Range:	3cfm (0.085m ³ /min) to 176cfm (4.98m ³ /min) at 7 bar g (102 psi g)	Maximum Inlet Temperature:	50°C (122°F)
Dewpoint:	-40°C (-40°F) Nominal (If -70°C option required, contact domnick hunter) -70°C (-100°F) Optional	Minimum Inlet Temperature:	5°C (41°F)
Air Quality Class:	ISO 8573.1 Class 1.2.1 Nominal ISO 8573.1 Class 1.1.1 Optional	Controls:	MINI MIDI_{PLUS} Pneumatic Control Electronic Control Timer
Maximum Operating Pressure:	DM002 - 006 10.5 bar g (152 psi g) DME012 - 040 16 bar g (232 psi g) DME050 - 080 13 bar g (189 psi g)	Standard Electrical Supply:	230V/1Ph/50 - 60Hz 110V/1Ph/50 - 60Hz
Minimum Operating Pressure:	4 bar g (58 psi g)	Noise Level (Average):	75dB(A)

Optional electric operation

Model	Flow Rates* @ 7 bar g (102 psi g)		Dimension A	Weight	Inlet Filter	Outlet Filter	Filter Port Size**
	cfm	m ³ /min					
DM002	3	0.085	370 (14.8")	5 (11.9)	AA-0009G	AR-0009G	G $\frac{1}{4}$ "- $\frac{1}{4}$ " NPT
DM003	6	0.17	465 (18.5")	7 (14.3)	AA-0009G	AR-0009G	G $\frac{1}{4}$ "- $\frac{1}{4}$ " NPT
DM006	13	0.37	705 (28")	9 (20.2)	AA-0009G	AR-0009G	G $\frac{1}{4}$ "- $\frac{1}{4}$ " NPT
DME012	24	0.68	837 (32.9")	32 (70)	AA-0030G	AR-0030G	G $\frac{1}{2}$ "- $\frac{1}{2}$ " NPT
DME015	32	0.91	1003 (39.5")	37 (81)	AA-0030G	AR-0030G	G $\frac{1}{2}$ "- $\frac{1}{2}$ " NPT
DME020	42	1.19	1168 (46.0")	42 (92)	AA-0030G	AR-0030G	G $\frac{1}{2}$ "- $\frac{1}{2}$ " NPT
DME025	53	1.5	1333 (52.5")	47 (103)	AA-0030G	AR-0030G	G $\frac{1}{2}$ "- $\frac{1}{2}$ " NPT
DME030	65	1.84	1499 (59.0")	52 (114)	AA-0030G	AR-0030G	G $\frac{1}{2}$ "- $\frac{1}{2}$ " NPT
DME040	88	2.49	1747 (68.8")	60 (132)	AA-0058G	AR-0058G	G $\frac{3}{4}$ "- $\frac{3}{4}$ " NPT
DME050	106	3	1433 (56.4")	80 (176)	AA-0080G	AR-0080G	G1-1" NPT
DME060	130	3.68	1599 (62.9")	90 (198)	AA-0080G	AR-0080G	G1-1" NPT
DME080	176	4.98	1847 (72.7")	104 (229)	AA-0080G	AR-0080G	G1-1" NPT

*Referenced to 20°C (68°F) and 1 bar a (14.5 psi a) **BSPP supplied as standard please specify if NPT required.

Correct Dryer Selection

- Select your correction factor for minimum pressure (CFP) to inlet of dryer
(Allow for system pressure losses when determining minimum operating pressure).

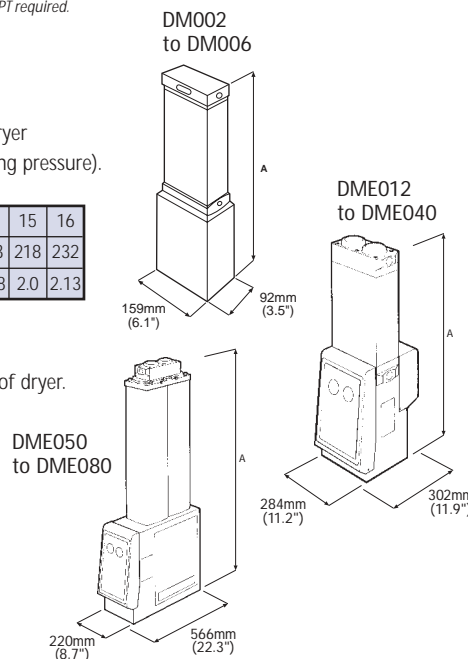
Minimum Pressure	bar g	4	5	6	7	8	9	10	11	12	13	14	15	16
to Inlet of Dryer	psi g	58	73	87	102	116	131	145	160	174	189	203	218	232
Correction Factor (CFP)		0.63	0.75	0.88	1.0	1.13	1.25	1.38	1.5	1.63	1.75	1.88	2.0	2.13

- Select your correction factor for maximum temperature (CFT) to inlet of dryer.

Maximum Temperature to	°C	25	35	40	45	50
Inlet of Dryer	°F	77	95	104	113	122
Correction Factor	(CFT)	1.0	1.0	0.97	0.88	0.73

- Calculate dryer capacity required following the equation below.

$$\frac{\text{Inlet flow requirement}}{\text{CFP} \times \text{CFT}} = \text{Dryer capacity requirements}$$



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