

INNOVATIVE
COMPRESSED AIR
DRYERS

YOU CAN SEE
OUR THINKING

ENGINEERING ADVANTAGE

- Offers significant advantages over conventional air dryers
- Trouble-free life between major overhaul schedules
- Patented Adsorbent Media Tube (AMT) technology

**UP TO 6 YEARS
MAINTENANCE
FREE LIFE**
(18,000 usage hours)

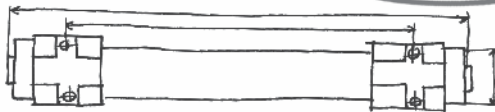
Improved
drying
performance

TOTAL
FLEXIBILITY
IN MOUNTING
ORIENTATION

FAIL-SAFE

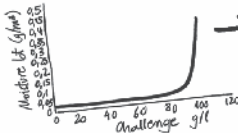
Provides reliable
and effective
air drying

**VIBRATION
TESTED
TO EN
61373:2010**



Reduced air
purge consumption

Significant weight reduction



Up to 25%
more energy
efficient

-50°C ... +80°C

**ROBUST, DURABLE
AND COMPACT
SOLUTION**

**OUTSTANDING
DEW POINT
SUPPRESSION**

**INTRODUCING THE
INNOVATIVE COMPRESSED
AIR DRYER**





CREATING ADVANTAGE WITH PEOPLE, PRODUCTS, INNOVATION AND SERVICES

A WORLD LEADER IN MOTION AND FLUID CONTROL TECHNOLOGIES, NORGREN WORKS CLOSELY WITH CUSTOMERS TO GAIN A DEEPER UNDERSTANDING OF THEIR ENGINEERING NEEDS, AND THEN CONNECTS ITS PEOPLE, PRODUCTS AND EXPERTISE TO GIVE THEIR EQUIPMENT AND THEIR BUSINESS A CLEAR ADVANTAGE. WE CALL THIS ENGINEERING ADVANTAGE.



WITH A SALES AND SERVICE NETWORK IN 75 COUNTRIES – AS WELL AS MANUFACTURING CAPABILITY IN THE USA, GERMANY, CHINA, UK, SWITZERLAND, CZECH REPUBLIC, MEXICO AND BRAZIL – WE HAVE GENUINE GLOBAL CAPABILITY.

We also think local and niche: on focusing our resources on delivering a specific product, solution or service to meet our customers' needs.

As a responsible business, we're committed to working practices which contribute positively to the environments in which we work. Our products are setting new standards for efficiency, helping customers reduce air usage and energy costs while improving overall performance. We offer:

- **INNOVATION & TECHNICAL EXCELLENCE** through four global technical centres and the experience of specialist engineering teams. We have a portfolio of patented solutions, and are always developing new and cost-effective technologies
- **HIGH PERFORMANCE PRODUCTS** covering pneumatic actuators, airline preparation, fittings and valves. We can supply these either singly to meet MRO needs, or combined in powerful customised solutions
- **EXCEPTIONAL LOCAL SERVICE** delivered through Key Account Management teams and sector specialists committed to understanding and meeting our customers' engineering challenges, wherever they are

EXPERTISE IN THE RAIL SECTOR

FOCUSING EXPERTISE AND ENGINEERING RESOURCES ON DELIVERING HIGH PERFORMANCE PRODUCTS, SERVICES AND ADDED VALUE SOLUTIONS TO THE RAIL SECTOR

Across more than 30 years experience in the rail industry we have developed a core set of products and technologies proven over millions of miles of reliable service, as well as a true understanding of the daily demands faced by rail operators and original equipment manufacturers (OEM).

Norgren systems take extremes of temperature in their stride, from braking sub-systems and pantograph controls on high-speed trains operating at -40°C (-40°F) in China and Eastern Europe, to freight wagon door systems operating at 80°C (+176°F) plus in the Australian outback.

We are well used to designing for the temperature range, voltage tolerance, vibration resistance and safety needs of the rail industry.

- A temperature ranging from -40°C (-40°F) ... +80°C (+176°F)
- Voltage tolerance of +/- 30%
- EN61373 category 1 class A and B vibration resistance

Norgren offers expertise and customised solutions to the metro, intercity, high-speed, freight and permanent-way rail industries.

- Air preparation equipment
- Brake sub-systems and components
- Coupling control systems
- Door & Step systems
- Pantograph control systems
- Water control systems
- Freight control & actuation



ADSORBENT MEDIA TUBE (AMT) DRYER

NORGREN HAS WORKED CLOSELY WITH CUSTOMERS IN THE RAIL INDUSTRY TO UNDERSTAND THE IMPROVEMENTS THEY WANTED FROM THEIR PNEUMATIC SYSTEMS. THE RESPONSE HIGHLIGHTED A WIDESPREAD NEED FOR IMPROVED ENERGY EFFICIENCY, EXTENDING MAINTENANCE PERIODS, REDUCING WEIGHT AND EMISSIONS; AND ROBUST, DURABLE SOLUTIONS.

THE AMT DRYER ANSWERS THESE NEEDS

Norgren’s innovative compressed air dryer is designed specifically for the rail sector, and is made from a highly engineered polymer material, which delivers greater efficiency and optimised performance for the customer.

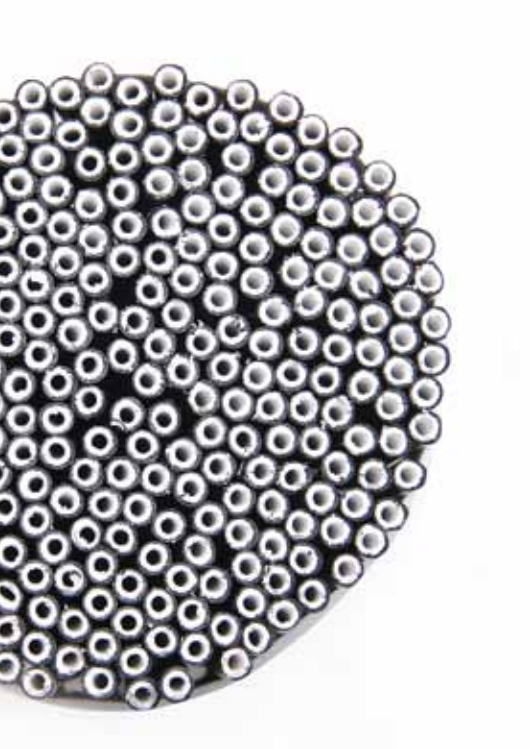
The dryer boasts an average service free life of 6 years along with an improved drying performance but with a reduced purge air requirement. Vibration tested to BS EN 61373:2000 standard and with an ambient operating temperature range of -50...+ 80°C [-58...+176°F], the new dryer provides a robust, durable yet compact solution.

THIS UNIQUE DESIGN DELIVERS SIGNIFICANT BENEFITS

- Performance not compromised by orientation or vibration
- Compact design results in weight savings
- Very fast adsorption kinetics
- Energy efficient
- Easy handling
- Reduced purge flows
- “Fail safe” design

TECHNOLOGY

- Patented Adsorbent Media Tube (AMT) technology
- Utilises adsorbent material packaged into a tube structure
- Tube material is impervious to water saturation
- Conventional clay beads will dissolve if contaminated by bulk water
- Improved moisture uptake compared with standard beaded technology
- Complete package - Dryer system preceded by multi-stage filtration system including high efficiency oil and oil vapour removal filters



PERFORMANCE

- Service Intervals (Dryer) - 18,000 operating hours (6-year service intervals)

→ Significant weight reduction compared with a conventional dryer

→ Up to 25% more energy efficient

→ Reduced pressure drop across the dryers

→ Reduced air purge requirement

→ Total flexibility in mounting orientation

→ Robust and durable

→ Vibration tested to BS EN 61373:2010

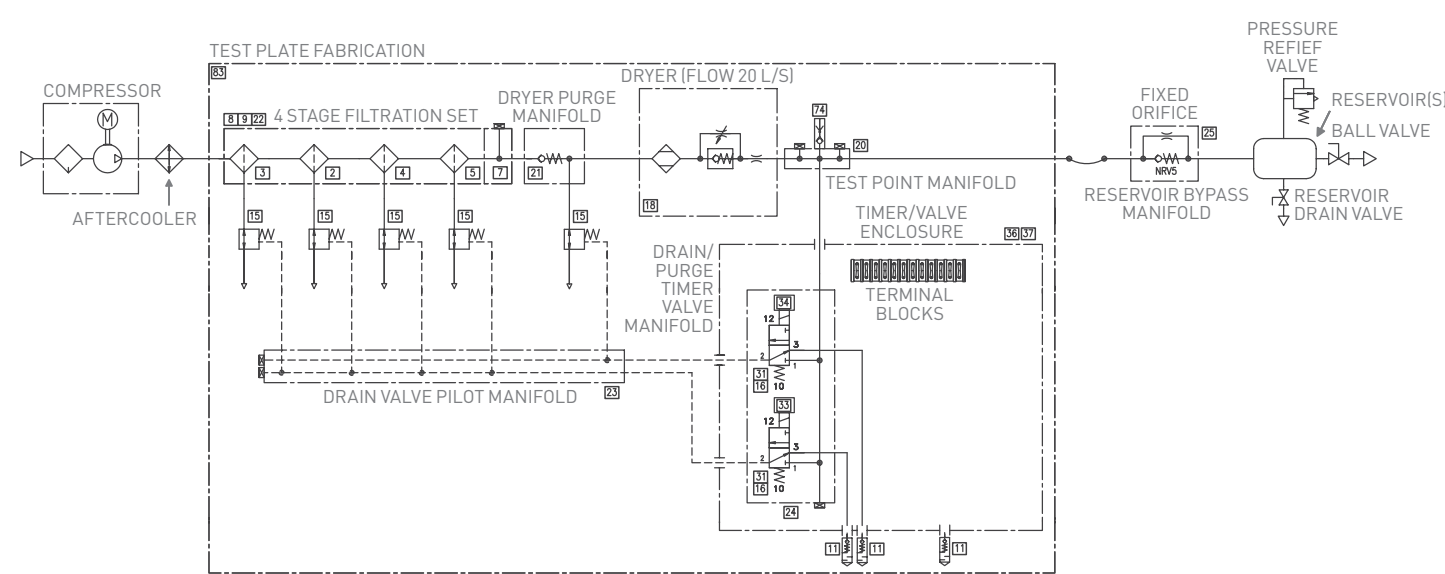
→ Operating pressure range: 4 bar (72 psig) to 12 bar (188 psig)

→ Operating temperature range (Ambient): -50...+ 80°C (-58...+176°F)

→ Typical dew point suppression: 40°C (104°F)*
- * On-going continuous testing has resulted in better than 40°C (104°F) suppression



SINGLE UNIT AIR REGENERATION SYSTEM



ADDITIONAL PRODUCTS

- In addition to our range of air dryers, we also provide specific filtration systems to remove bulk water, oil, dirt particles, oil aerosols and oil/chemical vapours.

→ Ensures optimal air condition, increased reliability and protection of downstream equipment & applications e.g. braking systems, pantograph operation and automatic doors

→ Oil and particles removed from downstream to achieve ISO 8573-1 standards
- High temperature filters to remove hot oil and carbon particles

→ Fine particle removal filter to give a final air quality of 0.01 micron

→ New high performance coalescing and activated carbon filters



For more information visit www.norgren.com/rail

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