



COMPRESSED AIR CONDENSATE MANAGEMENT AND ENERGY SAVING PRODUCTS

TIMER CONTROLLED DRAINS

FLUIDRAIN

EZ-1

TEC-11

TEC-44

COMBO-D-LUX

HIGH PRESSURE



 DRAIN FLEXIBILITY

RELIABLE

Condensate drains

INDEX

Chapter	Content	Page
1	Introduction to compressed air condensate Why install a condensate drain?	3 3
2	Will any condensate drain do? How are JORC's drains constructed?	4 4
3	FLUIDRAIN Specifications 16 bar	6 7
4	EZ-1 Specifications 16 bar	8 9
5	FLUIDRAIN-COMBO Specifications 16 bar	10 11
6	TEC-44 Specifications 40 bar	12 13
7	TEC-11 Specifications 16 bar	14 15
8	COMBO-D-LUX Specifications	16 17
9	High pressure Stainless steel	18 19
10	Accessories Accessories	20 21

Version 06-2018

JORC Industrial is a global condensate management specialist of Dutch origin offering condensate drains, oil water separators and air saving equipment to distributors, dealers and OEM's in more than 100 countries. JORC Industrial is dedicated to setting the standard in helping its customers manage their condensate management requirements.

Information provided herewith is believed to be accurate and reliable. However, no responsibility is assumed for its use or for any infringement of patents or rights of others, which may result from its use. In addition, JORC reserves the right to revise information without notice and without incurring any obligation.

Chapter 1

COMPRESSED AIR CONDENSATE

During the process of compressing air, atmospheric air along with water vapour and atmospheric contaminants (hydrocarbon, dust particles or chemical vapours), are drawn into the compressor intake.

Additionally, the compression chambers of most compressors require oil for lubrication, sealing and cooling. Once compressed, the air flows into an after cooler to remove the heat of compression. As the air cools in the after cooler, water and hydrocarbon vapours will condense.

Additional condensation takes place as the air is further cooled in the piping and (refrigerated) air dryers.

Environmental regulations strictly prohibit the discharge of oily wastes and chemicals, including the condensate drained from a compressed air system. Because of these requirements, municipalities regulate the discharge of compressor condensate to surface water, wastewater treatment facilities, and sanitary sewers.

WHY INSTALL A CONDENSATE DRAIN?

Condensate drains are possibly the least glamorous and most ignored component of a compressed air system but nevertheless, a most important part. No matter how much you spend on that fancy new compressed air system, not spending a little effort with your drain choice could cause you no end of headaches and increased operating costs for years to come.

Contaminants can enter a system at the compressor intake or be introduced into the airstream by the system itself. Lubricant, metal particles, rust, and pipe scale are all separated and filtered out, but it's the drains that have to operate properly for the filters and separators to be successful in completing their task.

Drains can be found on an intercooler, after-cooler, filter, dryer, receiver, drip leg, or at point of use. Drains come in several types and variants for all these applications, some quite fancy, but they fall into these basic categories: level sensed – timer operated – float - manual – none (yes that is a drain choice!).

How do your drains improve system efficiency? Draining the moisture from compressed air systems ensures fewer downtimes and less damage due to rust and scale etc. JORC timer drains are designed for long life and require a minimum amount of maintenance. They are key components in the quest for system efficiency and reliability.

When a drain fails to eject all of the condensate collected, oil and/or water will collect, causing carry over into the system – allowing build-up of contaminants in dryers, receivers and filters.

On multiple stage compressors moisture carry over from the intercooler may allow liquid into the next stage causing premature wear and possibly a catastrophic failure.

Installing a reliable drain is an absolute must!



WILL ANY CONDENSATE DRAIN DO?

Because compressed air condensate contains particles that contaminate compressed air systems and potentially cause valve blockages. It is important to choose a drain that offers a large enough orifice. Avoid drains that have diaphragm type valve constructions, the diaphragm has a very small hole in it, which once blocked the complete drain fails to operate. Always apply direct acting valve constructions.

Drains are also installed outdoors. IP65 (NEMA4) insulation protection is therefore a minimum requirement. Avoid drains that do not comply to this minimum specification.

For long life expectations select drains that have FPM seals. FPM is the best suited for the aggressive make up of compressor condensate.

Servicing a drain must be straight forward and quick. Avoid drains that are not service friendly as this will cost more time during the maintenance interval.

JORC'S DRAIN CONSTRUCTION

It starts with the design! JORC drains are robust and designed for long life industrial applications.

The JORC direct acting valve construction has proven to be the most reliable option for condensate draining applications. We apply stainless steel moving parts that offer a long life guarantee and are less sensitive to larger particles found in condensate.

The JORC valves are constructed from robust brass or stainless steel and not from plastic. This ensures that no damage is occurring during transportation, installation, functional operation and the subsequent maintenance moments throughout the drain's working life.

High grade coil insulation protect the copper wire from overheating and top brand PCB components are applied on the electronic modules.

Servicing JORC drains is quick and simple. Economically sensible service kit packages are available for all JORC drains.

In all JORC drains there are FPM seals that have been specifically selected based on their high and low temperature operation characteristics. In addition, FPM seals are selected as this material has proved to be the best choice for compressed air condensate draining applications.

JORC drains can be applied in both oil lubricated and oil free compressor applications.

JORC products carry globally recognised approvals and each product is 100% tested prior to despatch



JORC is NEN – EN - ISO 9001:2015 – certified

FLUIDRAIN®

Electronically timer controlled condensate drain



The FLUIDRAIN timer controlled condensate drain is a combination of a solenoid valve and an electronic timer designed to automatically remove condensate from compressed air systems.

PRODUCT FEATURES

The FLUIDRAIN is designed to remove condensate from compressors, compressed air dryers and receivers up to any size, type or capacity.

The FLUIDRAIN offers installation simplicity and it is recognised as the most reliable and best performing condensate drain worldwide. The large orifice in the direct acting valve, combined with its sophisticated timer module ensure many years of trouble-free draining of condensate providing minimum service work is carried out.

COMMERCIAL BENEFITS

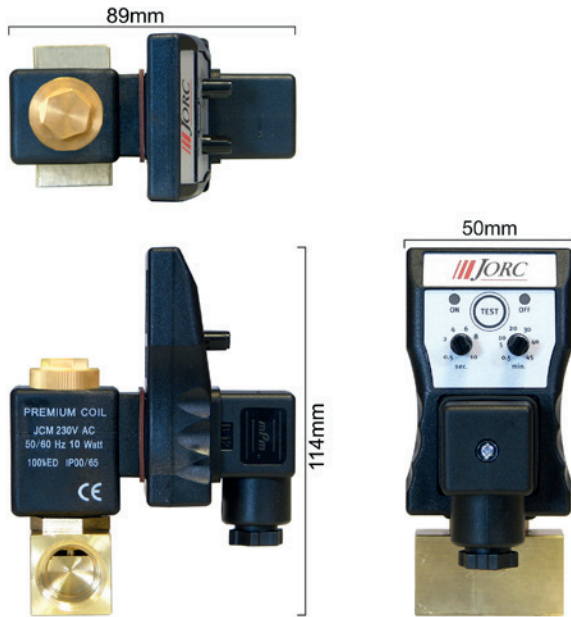
- Any type of compressed air system and up to any compressor capacity
- Also available in stainless steel and high pressure (see page 20/21)
- Voltage range 12 – 380VAC/DC
- Environmental low Watt version available
- Serviceable valve construction, offering you routine maintenance revenues
- Consult JORC for private labelling options

TECHNICAL ADVANTAGES

- Large (4.5 mm) valve orifice
- Does not air-lock during operation
- Quick to service
- TEST (micro-switch) feature
- Accurate time cycles
- High quality PCB components, offering you consistent quality



PRODUCT DIMENSIONS



Also available in a version that requires less than 1 Watt to operate!

PRODUCT SPECIFICATIONS

Max. compressor capacity	Any size
Min./max. system pressure	0 bar / 16 bar (higher pressure available see page 20)
Min./max. medium temperature	1 - 55°C
Min./max. ambient temperature	1 - 55°C
Supply voltage options	12 – 380 VAC/DC 50/60 Hz. (please indicate)
Environmental protection	IP65 (NEMA4)
Connector type (power and alarm)	DIN 43650-A
Inlet/outlet connections	1/8", 1/4", 3/8", 1/2" (BSP or NPT)
Inlet connection height	Approx. 1 cm
Valve type	2/2 way, direct acting
Valve orifice	4.5mm
Valve seals	FPM
Serviceable valve	Yes
Valve housing material	Brass (stainless steel available see page 21)
TEST feature	Yes
Timer cycle range (ON/OFF)	0.5 – 10 seconds / 0.5 – 45 minutes
Timer PCB	SMD technology, ensuring consistency in production
Timer cycle indication	Bright LED illumination



Highest quality PCB



Service kits available



Accessories include ball valve strainers

EZ-1®

Electronically timer controlled condensate drain



The EZ-1 timer controlled condensate drain is a combination of a solenoid valve and an electronic timer designed to automatically remove condensate from compressed air systems.

PRODUCT FEATURES

The EZ-1 is designed to remove condensate from compressors, compressed air dryers and receivers up to maximum 16 bar applications.

The EZ-1 offers true installation simplicity at the lowest possible cost. The EZ-1 is a mass produced product available in various valve connection sizes and timer colour options.

COMMERCIAL BENEFITS

- Competitive pricing levels available
- Any type of compressed air systems and up to 16 bar
- Serviceable valve construction, offering your routine maintenance revenues
- Consult JORC for private labelling options

TECHNICAL ADVANTAGES

- Large (4.0mm) valve orifice
- Various connection sizes available, offering you installation flexibility without the need of adapters
- Does not air-lock during operation
- Quick to service
- TEST (micro-switch) feature
- Accurate time cycles
- Premium PCB components selected



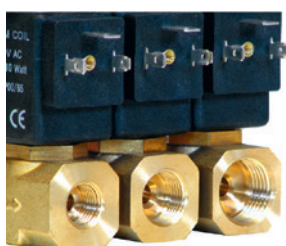
PRODUCT DIMENSIONS



Bright LED illumination, indicating operating status

PRODUCT SPECIFICATIONS

Max. compressor capacity	Any size
Min./max. system pressure	0 bar / 16 bar (higher pressure available see FLUIDRAIN)
Min./max. medium temperature	1 - 55°C
Min./max. ambient temperature	1 - 55°C
Supply voltage options	24 – 230 VAC/DC 50/60 Hz. (please indicate)
Environmental protection	IP65 (NEMA4)
Connector type (power)	DIN 43650-A
Inlet/outlet connections	1/4", 3/8", 1/2" (BSP or NPT)
Inlet connection height	Approx. 1 cm
Valve type	2/2 way, direct acting
Valve orifice	4.0mm
Valve seals	FPM
Serviceable valve	Yes
Valve housing material	Brass (Stainless steel available see FLUIDRAIN)
TEST feature	Yes
Timer cycle range (ON/OFF)	0.5 – 10 seconds / 0.5 – 45 minutes
Timer PCB	SMD technology, ensuring consistency in production
Timer cycle indication	Bright LED illumination



Various connection options



Service kits available



Accessories include ball valve strainers

FLUIDRAIN-COMBO®

Electronically timer controlled condensate drain



The FLUIDRAIN-COMBO timer controlled condensate drain is a combination of a solenoid valve and an electronic timer designed to automatically remove condensate from compressed air systems.

PRODUCT FEATURES

The FLUIDRAIN-COMBO is designed to remove condensate from compressors, compressed air dryers and receivers up to 16 bar applications.

The FLUIDRAIN-COMBO saves installation time and protects against large particles found in condensate, thanks to the integrated ball valve and strainer. The unit can be shut off from the compressed air system, enabling easy and safe work to be carried out.

COMMERCIAL BENEFITS

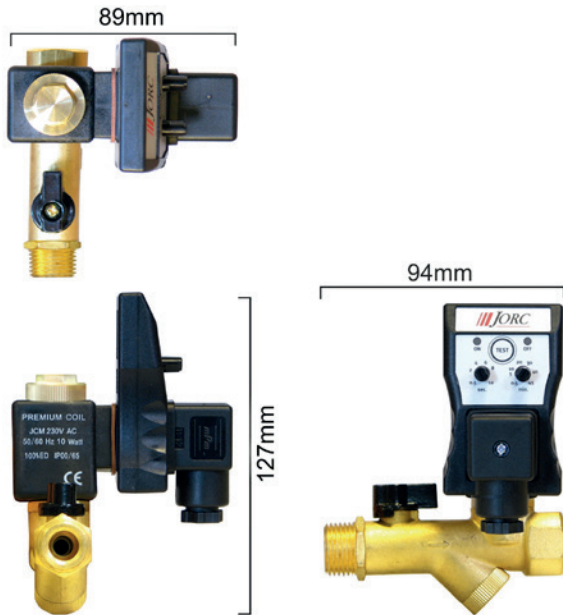
- Installation time saver thanks to the integrated shut off valve & mesh strainer
- Dual thread inlet (1/2" & 1/4"), offering installation flexibility
- Any type of compressed air system and up to 16 bar
- Serviceable valve construction, offering you routine maintenance revenues
- Consult JORC for private labelling options

TECHNICAL ADVANTAGES

- Integrated mesh strainer, offering valve and orifice protection from larger particles found in condensate
- Integrated shut off valve, offering easy shut off of the valve for routine maintenance
- Does not air-lock during operation
- TEST (micro-switch) feature



PRODUCT DIMENSIONS



Exceptionally compact!

PRODUCT SPECIFICATIONS

Max. compressor capacity	Any size
Min./max. system pressure	0 bar / 16 bar (higher pressure available see FLUIDRAIN)
Min./max. medium temperature	1 - 55°C
Min./max. ambient temperature	1 - 55°C
Supply voltage options	12 – 380 VAC/DC 50/60 Hz. (please indicate)
Environmental protection	IP65 (NEMA4)
Connector type (power and alarm)	DIN 43650-A
Inlet/outlet connections	1/4" & 1/2" / 1/2" (BSP or NPT)
Inlet connection height	Approx. 1 cm
Valve type	2/2 way, direct acting
Valve orifice	4.0mm
Valve seals	FPM
Serviceable valve	Yes
Valve housing material	Brass (Stainless steel available see FLUIDRAIN)
TEST feature	Yes
Timer cycle range (ON/OFF)	0.5 – 10 seconds / 0.5 – 45 minutes
Timer PCB	SMD technology, ensuring consistency in production
Timer cycle indication	Bright LED illumination



Dual inlet feature
1/2" & 1/4"



Shut off valve
incorporated



Integrated mesh strainer

TEC-44[®]

Motorised ball valve condensate drain



The TEC-44 is a microprocessor operated ball valve, designed to remove condensate from deliquescent dryers, rusty old tanks, vessels and refrigerated dryers.

PRODUCT FEATURES

The TEC-44 is a powerful timer controlled motorized ball valve, designed to remove condensate from deliquescent dryers, tanks, vessels and refrigerated dryers.

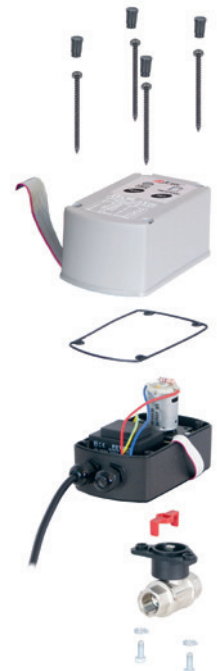
The TEC-44 is designed to remove heavy contaminated condensate up to pressure ratings of 40 bar. This condensate drain can not be blocked and is applied where all else fails. Draining applications with a high level of contamination (rust, scale etc.) require the TEC-44. The TEC-44 is impossible to block due to its powerful ball valve rotation and large orifice.

COMMERCIAL BENEFITS

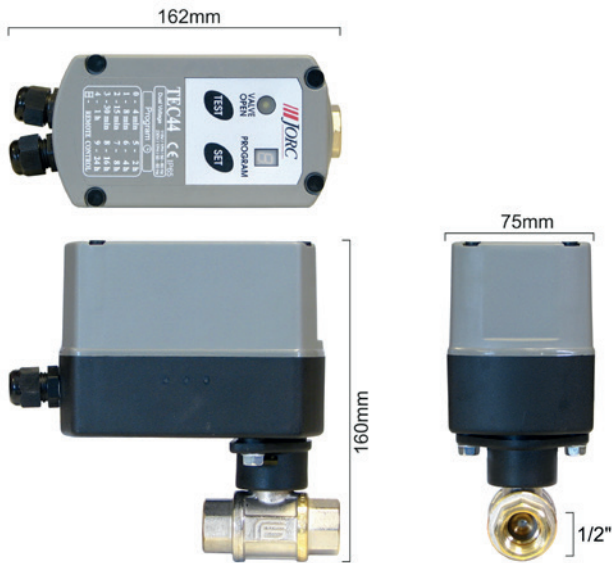
- Suitable for all types of compressed air systems with high contamination levels (rust, scale)
- Impossible to block due to its powerful ball valve rotation
- Compressed air systems up to 40 bar applications

TECHNICAL ADVANTAGES

- Large (full bore) 12mm orifice, offering you a drain that cannot block
- Stainless steel ball valve
- Remote switch feature
- Does not air-lock during operation
- TEST (micro-switch) feature
- Micro-processor controlled (high level of time cycle accuracy)



PRODUCT DIMENSIONS



Bright visual display of selected program!

PRODUCT SPECIFICATIONS

Max. compressor capacity	Any size
Pressure range	0 bar / 40 bar (higher pressure available see FLUIDRAIN)
Supply voltage options	24VDC, 115VAC and 230VAC 50/60 Hz. (please indicate)
Environmental protection	IP65 (NEMA4)
Power connection	Cable and plug
Min./max. medium temperature	1 - 60°C
Min./max. ambient temperature	1 - 55°C
Inlet/outlet connections	1/2" / 1/2" (BSP or NPT)
Inlet connection height	Approx. 1 cm
Valve type	2/2 way, motorised ball valve
Valve orifice	12.0mm
Valve seals	FPM and Teflon
Serviceable valve	Yes
Valve housing material	Brass nickel plated, ball valve stainless steel
TEST feature	Yes
Remote switch feature	Yes
Timer cycle range (ON/OFF)	7 seconds to 15 minutes ON / 4 minutes to 24 hours OFF
Actuator PCB	SMD technology, ensuring consistency in production
Time cycle indication	Bright LED illumination



Brass nickel plated valve



Stainless steel rotating ball



Remote switch feature

TEC-11[®]

Electronically timer controlled condensate drain



The TEC-11 timer controlled condensate drain is a combination of a solenoid valve and an electronic timer designed to automatically remove condensate from compressed air filters.

PRODUCT FEATURES

The TEC-11 removes condensate, automatically, from compressed air filters and small dental (oil free type) compressors.

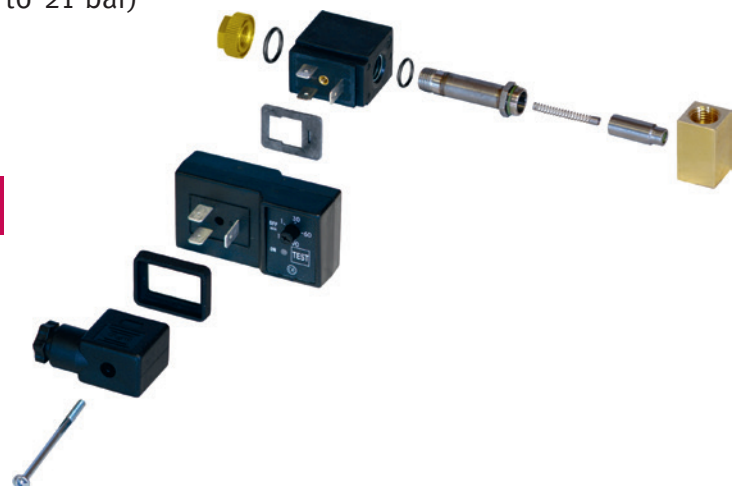
The clever in-line design allows for perfect installation under all types of compressed air filters, regardless of their capacity or size.

COMMERCIAL BENEFITS

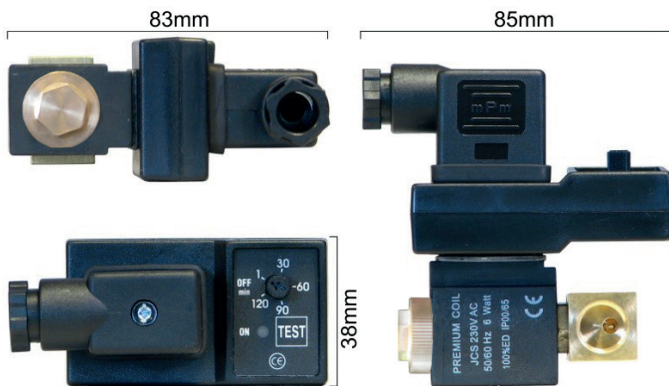
- In-line design, offering easy mounting under filters
- Small and compact, offering easy installation on small dental compressors
- Medium pressure up to 16 bar (optionally up to 21 bar)
- Serviceable valve construction, offering you routine maintenance revenues
- Consult JORC for private labelling options

TECHNICAL ADVANTAGES

- Connection sizes 1/8" & 1/4"
- Does not air-lock during operation
- Quick to service
- TEST (micro-switch) feature
- Fixed ON cycle and an adjustable OFF cycle



PRODUCT DIMENSIONS



Inline installation under compressed air filters.

PRODUCT SPECIFICATIONS

Max. filter capacity	Any size
Min./max. system pressure	0 bar / 16 bar (higher pressures available see FLUIDRAIN)
Min./max. medium temperature	1 - 55°C
Min./max. ambient temperature	1 - 55°C
Supply voltage options	12 - 380 VAC/DC 50/60 Hz. (please indicate)
Environmental protection	IP65 (NEMA4)
Connector type (power)	DIN 43650-B / ISO6952
Inlet/outlet connections	1/8" or 1/4" (BSP or NPT)
Inlet connection height	Approx. 1 cm
Valve type	2/2 way, direct acting
Valve orifice	2.0mm
Valve seals	FPM
Serviceable valve	Yes
Valve housing material	Brass
TEST feature	Yes
Timer cycle range (ON /OFF)	2 seconds fixed / 1 minute to 120 minutes adjustable
Timer PCB	SMD technology, ensuring consistency in production
Time cycle indication	Bright LED illumination



Service kits



Private labelling options



Install under any filter

COMBO-D-LUX®

Digitally time controlled condensate drain



Also available in a FLUIDRAIN valve version

The D-LUX feature is a digital timer setting applied on time controlled condensate drains designed to automatically remove condensate from compressed air systems.

PRODUCT FEATURES

The D-LUX is designed to remove condensate from compressors, compressed air dryers and receivers up to 16 bar applications.

The COMBO-D-LUX is an all-in-one digital timer drain with an integrated ball valve and strainer. The unit offers true digital time cycle programming luxury ranging from milliseconds to 99 hours.

COMMERCIAL BENEFITS

- Wide time setting range, offering you application flexibility
- Exceptionally accurate cycle timing
- Suitable for all types of compressed air systems
- Serviceable valve construction, offering you routine maintenance revenues
- Consult JORC for private labelling options

TECHNICAL ADVANTAGES

- Integrated mesh strainer for large particles
- Shut off valve incorporated
- Dual threaded inlet (1/2" and 1/4")
- Does not air-lock during operation
- Quick to service
- TEST (micro-switch) feature
- Bright digital illuminated display, offering you a visual indication of current operating cycle



PRODUCT DIMENSIONS



Integrated mesh strainer



Dual inlet 1/2" and 1/4"



Integrated shut off valve

PRODUCT SPECIFICATIONS

Max. compressor capacity	Any size
Min./max. system pressure	0 bar / 16 bar (higher pressures available see FLUIDRAIN)
Min./max. medium temperature	1 - 55°C
Min./max. ambient temperature	1 - 55°C
Supply voltage options	12 - 230 VAC/DC 50/60 Hz. (please indicate)
Environmental protection	IP65 (NEMA4)
Connector type (power)	DIN 43650-A
Inlet/outlet connections	1/4" & 1/2" / 1/2" (BSP or NPT)
Inlet connection height	Approx. 1 cm
Valve type	2/2 way, direct acting
Valve orifice	4.0mm
Valve seals	FPM
Serviceable valve	Yes
Valve housing material	Brass
TEST feature	Yes
Timer cycle range (ON/OFF)	0,01 second to 99 hours (both ON and OFF)
Timer PCB	SMD technology, ensuring consistency in production
Time cycle indication	Bright LED illumination



Visual display of current operating cycle



Wide time setting range offering you application flexibility



Digital processor, offering you exceptionally accurate cycle timing

HIGH PRESSURE

Timer controlled condensate drains



High pressure timer controlled condensate drains are designed to automatically remove condensate from compressed air systems up to 500 bar.

PRODUCT FEATURES

The FLUIDRAIN-HP is designed to remove condensate from high pressure compressed air systems and systems that require stainless steel valves (i.e. food industry, etc.).

The FLUIDRAIN-HP offers true installation simplicity and it is recognised as the most reliable and best performing condensate drain worldwide.

The FLUIDRAIN-HP offers trouble free condensate draining on systems up to 500 bar, depending on the valve orifice, valve material and seal selection.

COMMERCIAL BENEFITS

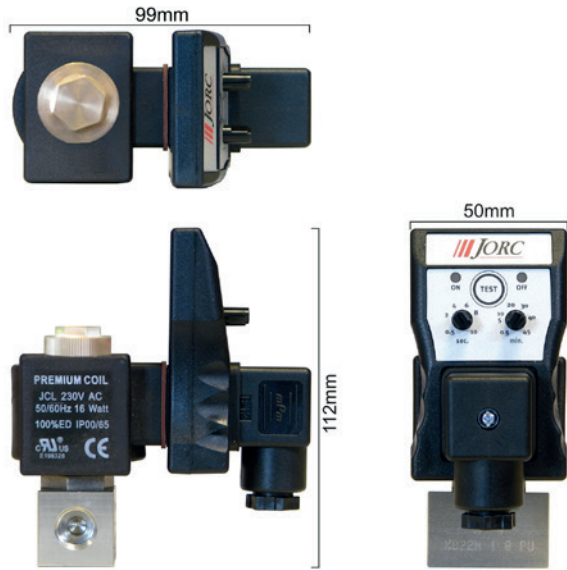
- Suitable for all types of compressed air systems up to 500 bar
- Special valve constructions & seals available for special applications
- Stainless steel valve options, offering you solutions in niche markets
- Serviceable valve construction, offering you routine maintenance revenues
- Consult JORC for private labelling options

TECHNICAL ADVANTAGES

- Brass & stainless steel valve constructions depending on pressure
- FPM, Peek, PU, NBR and several other seals are available
- Does not air-lock during operation
- Quick to service
- TEST (micro-switch) feature



PRODUCT DIMENSIONS



The right seal for the right job!

PRODUCT SPECIFICATIONS

Max. compressor capacity	Any size
Min./max. system pressure	0 bar / 500 bar (depending on FLUIDRAIN model)
Min./max. medium temperature	1 - 55°C
Min./max. ambient temperature	1 - 55°C
Supply voltage options	12 - 380 VAC/DC 50/60 Hz. (please indicate)
Environmental protection	IP65 (NEMA4)
Connector type (power)	DIN 43650-A
Inlet/outlet connections	1/4" (BSP or NPT)
Inlet connection height	Approx. 1 cm
Valve type	2/2 way, direct acting
Valve orifice	Depending on pressure
Valve seals	FPM or other depending on pressure and application
Serviceable valve	Yes
Valve housing material	Brass or stainless steel depending on pressure
TEST feature	Yes
Timer cycle range (ON/OFF)	0.5 - 10 seconds / 0.5 - 45 minutes
Timer PCB	SMD technology, ensuring consistency in production
Time cycle indication	Bright LED illumination



Highest quality PCB
SMD technology, ensuring consistency in production



Service kits available



Stainless steel valve options,
offering you solutions in niche markets

Chapter 10

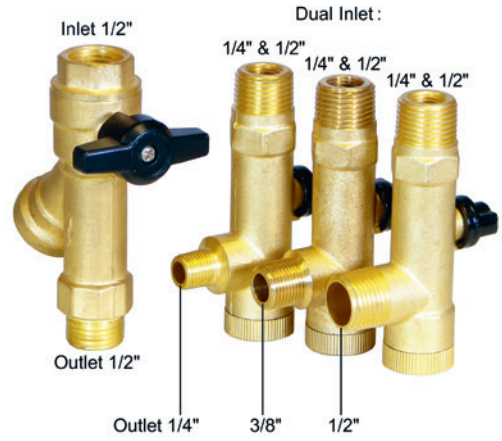
BALL VALVE STRAINERS

The FLUIDRAIN and EZ-1 drain valves have a large Orifice. This large orifice ensures that emulsions and particles in compressed air do not block the valve.

To avoid unnecessary adapters, we offer strainers that match the JORC valves and are available with outlet connection sizes 1/2", 3/8" and 1/4".

In addition, the strainer inlet is dual threaded (1/2" and 1/4").

Pressure ratings of the JORC ball valve strainers are 0 to 40 bar.



JORC PREMIUM COILS

JORC's JC-type coils are produced with H-grade coil insulation, ensuring maximum heat resistance during operation.

All voltages are available, ranging from 12 – 380 VAC/DC 50/60 Hz.

There are three coil sizes (JCS, JCM and JCL) depending on type of valve in combination with pressure rating requirements.



POWER CONNECTORS

(DIN) electrical power connectors are available in Form A & B (square and rectangle) with or without a moulded power cord.

Special adapters to connection Form B to A, are also available.



HOSE PIPE CONNECTORS

Hose pipe connectors are a secure and simple way to install the discharge pipe from the drain to the oil/water separator.

The hose diameter matches the connection to the SEPREAMIUM or PURO-CT oil/water separators.



WALL MOUNTING BRACKET

Wall mounting brackets allow easy installation of timer drains to walls or to the inside of refrigerated dryers.

The bracket kit contains all necessary fixings to complete the job.



SERVICE KITS

Great care is taken to ensure long lasting components are selected and applied in our products.

JORC products are designed in a way that makes servicing simple, quick and error free.

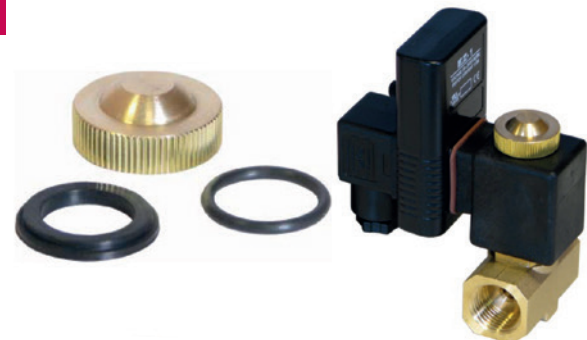
Servicing JORC products is a cost effective way to recondition the products for many more years of draining service.



IP COIL SEALING SET

The JORC timer drain incorporates the high level IP coil sealing set as standard.

This special IP coil sealing set is also available as a stand-alone item.



JORC TIMERS

The JORC timers (D-LUX, FLUIDRAIN, EZ-1, TEC-11) are produced to the highest standards. We apply two voltage protection elements to ensure a long life protection against electric al power surges.

The D-LUX timer can be programmed for all kind of special applications.



COMPRESSED AIR CONDENSATE MANAGEMENT AND ENERGY SAVING PRODUCTS

JORC Industrial BV

Pretoriastraat 28
NL-6413 NN Heerlen
The Netherlands

Tel: +31 (0) 45 524 24 27

info@jorc.nl
www.jorc.eu

