















# Fluid Control Solutions for Beverage Dispensing

Healthy Solenoid Valve Series







#### **WARNING - USER RESPONSIBILITY**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH. PERSONAL INJURY AND PROPERTY DAMAGE.

- This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
- The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.
- To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

## Fluid Control Solutions for Healthy Beverage Dispense

Parker Fluid Control Solutions Europe	4
Technical vocabulary for using tables	6
General description	7
121ZH Series - 2 way normally closed	8
121KH Series - 2 way normally closed	10
121FH Series - 2 way normally closed	12
131ZH Series - 3 way normally closed	14
131KH Series - 3 way normally closed	16
131FH Series - 3 way normally closed	18
121KH Series with manual flow regulator - 2 way normally closed.	20
121WH Series Compact - 2 way normally closed	22
131WH Series Compact - 3 way normally closed	24
Housing	26
Electrical parts	27
Accessories	32
How to order	33

## Parker Fluid Control Solutions Europe - FCSE

#### Who we are?

The Fluid Control Solutions Europe (FCSE) Business Unit is part of Fluid and Climate Controls Division Europe (FCCE) of Parker Hannifin, the global leader in Motion and Control Technologies.

FCSE core competences are the development and manufacturing of an extremely diverse range of fluid control products, including solenoid valves and pressure regulators.



Gessate (Italy) Fluid Controls Solutions Europe

## **History**

Parker FCSE has been a leading player in the manufacturing and development of solenoid valve technologies for over 60 years, with continuous research and development bringing innovative solutions to the marketplace, for example leading the way in the utilisation of synthetic ruby for critical water applications or the unsurpassed reliability and precision of our pressure regulators. The expertise accumulated and developed through the years is evident in the superior quality of FCSE solutions.

#### **Markets**

Our products and solutions are typically designed for markets including Industrial Equipment, Industrial Automation, Mobile, Transportation, Life Sciences, Beverage dispensing and for Fluid and Process Control.

#### **Benefits**

The modular concept of our products, having separate solenoid valves and electrical parts, provides the customer with increased flexibility by allowing numerous combinations. This additional flexibility can enable distributors to greater reduce valve inventory levels, whilst retaining the same number of capabilities. Parker also has unrivalled experience in developing customised product solutions complying with the highest technical, environmental, energy and service life requirements.

## Introduction

Parker Fluid Control Solutions Europe is your ideal partner offering the broadest range of solutions for beverage dispensers.

Thanks to Parker's extensive expertise and our dedication to innovation we are today in the position to offer a broad range of robust and exclusive solutions.

In fact, all our products have been developed in order to achieve superior performance in high demanding professional equipment.

### **Market segments**

- Professional coffee machines
- Vending distributors for hot drinks
- Semi-professional and domestic coffee machines
- Automatic water dispensers

## **Applications**

Typical applications in beverage dispensers are:

- Water loading control of a boiler
- Steam control
- Cold, hot and superheated water shut-off
- Cold water and steam mixing
- Steam pressure control (pressure switch)

### **Food Certifications Compliance**

- NSF 169
- 1935/2004/CE
- DM174 (Potable Water)

#### **Benefits**

Parker was the first company to develop the ruby sealing system for solenoid valves. Our expertise in this technology makes our products extremely efficient against limescale build-up.

High performance and low power consumption electrical components, with a wide range of configurations and approvals are available.

The strong and robust design provides you with high reliability, minimizing the risk of failures when your equipment is operating and avoiding downtime.

## Technical vocabulary

The basic technical features of each solenoid valve model are indicated in the tables with the following headings:

**Port size:** Fitting dimensions are defined as threaded in inches (G)

or sub-base, when a flat interface for ports is adopted.

**Orifice:** Main orifice diameter in millimetres (nominal diameter).

Flow factors: Defined as the quantity of water, temp. between +5°C and +30°C,

which flows through the solenoid valve with a pressure drop of 1 bar (100 KPa-0.1 MPa), in m3/h (cubic metres per hour) and in I/min

(liters per minute).

**Minimum pressure:** The lowest differential pressure required for operation, in bar.

Maximum differential pressure (MOPD):

The highest working differential pressure with 90% of the rated voltage

(-10% Vn).

Fluid maxi. temperature: Maximum admissible temperature for the media used. In °C.

**Seat disc:** Material used for the seat discs.

**Pressure vessel:** The mechanical part of a solenoid valve.

**Electrical part:** Compatible electrical part reference. Our tables are indicating the

most standard solution. Please refer to "Coil group" column to identify

alternative electrical parts.

**Power consumption:** Power consumption of a specific electrical part on selected pressure

vessel, rated by AC and DC, in W. Power consumption must be considered

in cold condition for the coil, at TAmb: +20°C.

For 481865 series, power consumption indicated in the tables must be

considered in warm conditions.

See also details in each electrical part description (pages 27-31).

**Weight:** Weight of the complete valve without accessories, in grams.

Safe body working pressure: Ref. EN 1333:2007 (PN) the maximum admissible pressure at 20°C

which can be applied to the solenoid valve to check the tightness of the mechanical seals (threads, welds) and the mechanical resistance

of the materials.

**Coil group:** Alternative electrical parts to the main one listed in the chart, having

particular features (approvals, insulation classes).

Please refer to electrical parts description (pages 27-31) to select

alternative coils.

## **General description**

**Material specifications:** A description of the materials used for each solenoid valve family.

**Installation:** The valves can be mounted in any position. It is however recommended to

install them with the coil in vertical position above the body.

**Media:** These valves have been developed to achieve the best performances with

cold and hot water, superheated water and steam.

Within the main description of the family you will be able to find out the

recommended media and application.

**Electrical parts:** Electrical parts compatible with each solenoid has been indicated directly

in the main datasheets you will find at pages 8 to 24.

Details about electrical parts specifications are available at pages 27-31. Please consult also the "How to order" section at page 33 on how to select

the product configuration which fits your application requirements.

## **Product selection**

This catalogue has been designed to make selection as easy as possible.

The structure allows you to find your valve step by step, beginning with the most basic features and gradually focusing on more precise details.

To make the selection easier we have included in each valve description an indication about typical applications, like water loading and cold water control, superheated water and steam control.

In the first column you will be able to identify the port size, and proceeding you will meet all the available product solution.



## 121ZH Series 2 way valves, normally closed



Our Parker range of healthy solenoid valves provides you with top-class performance as a result of the entire stainless steel structure of the valve pilots.

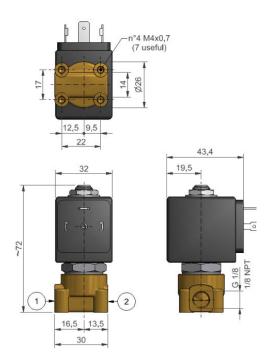
Compact and robust at the same time, the stainless steel nozzle included in all 32mm operated range improves valve life, endurance and resistance to lime-scale build up effect. A wide range of electrical parts can be used with this valve, including IP65 VDE and UL solutions. Typical applications include cold water loading function or hot water-steam on/off control.

Valve body: forged brass, CW510L UNI EN 12165

Seals: FDA FKM, Ruby



1	/8" F	Pipe	Мо	unti	ng C	onne	ectio	on			M	<b>1 1 2</b>				
Port Size	Orifice Ø	Flow	Factors		ating Pr Different			luid erature	Seat Seal	Parke	er Valves		Po	wer	Coil Group	Dwg N°
	mm	Kv I/min	KV m³/h	Min. Bar		MOPD) DC bar	Min.	Max.		Valve Ref.	Housing Ref.	Coil Ref.	AC W	DC W		
	1.0	0.7	0.04	0	20	18	-10	140	FDA FKM	121ZH1010	2995	481865	9	8	2.0, 2.1, 2.2	
	1.5	1.5	0.09	0	20	18	-10	140	FDA FKM	121ZH1015	2995	481865	9	8	2.0,2.1.2.2	•
	2.0	2.6	0.16	0	20	15	-10	140	FDA FKM	121ZH1020	2995	481865	9	8	2.0, 2.1, 2.2	•
	2.5	3.5	0.21	0	19	14.5	-10	140	FDA FKM	121ZH1025	2995	481865	9	8	2.0, 2.1, 2.2	
G1/8"	3.0	4.5	0.27	0	13	8.5	-10	140	FDA FKM	121ZH1030	2995	481865	9	8	2.0, 2.1, 2.2	
U 1/0	1.0	0.7	0.04	0	20	18	-10	140	Ruby	121ZH0010	2995	481865	9	8	2.0, 2.1, 2.2	
	1.5	1.5	0.09	0	20	18	-10	140	Ruby	121ZH0015	2995	481865	9	8	2.0, 2.1, 2.2	_
	2.0	2.6	0.16	0	20	15	-10	140	Ruby	121ZH0020	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	3.5	0.21	0	19	14.5	-10	140	Ruby	121ZH0025	2995	481865	9	8	2.0, 2.1, 2.2	_
	3.0	4.5	0.27	0	13	8.5	-10	140	Ruby	121ZH0030	2995	481865	9	8	2.0, 2.1, 2.2	1
	1.0	0.7	0.04	0	20	18	- 10	140	FDA FKM	U121ZH1010	2995	481865	9	8	2.0, 2.1, 2.2	_
	1.5	1.5	0.09	0	20	18	-10	140	FDA FKM	U121ZH1015	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.6	0.16	0	20	15	-10	140	FDA FKM	U121ZH1020	2995	481865	9	8	2.0, 2.1, 2.2	_
	2.5	3.5	0.21	0	19	14.5	-10	140	FDA FKM	U121ZH1025	2995	481865	9	8	2.0, 2.1, 2.2	_
NPT	3.0	4.5	0.27	0	13	8.5	-10	140	FDA FKM	U121ZH1030	2995	481865	9	8	2.0, 2.1, 2.2	_
1/8"	1.0	0.7	0.04	0	20	18	-10	140	Ruby	U121ZH0010	2995	481865	9	8	2.0, 2.1, 2.2	_
	1.5	1.5	0.09	0	20	18	-10	140	Ruby	U121ZH0015	2995	481865	9	8	2.0, 2.1, 2.2	_
	2.0	2.6	0.16	0	20	15	-10	140	Ruby	U121ZH0020	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	3.5	0.21	0	19	14.5	-10	140	Ruby	U121ZH0025	2995	481865	9	8	2.0, 2.1, 2.2	
	3.0	4.5	0.27	0	13	8.5	-10	140	Ruby	U121ZH0030	2995	481865	9	8	2.0, 2.1, 2.2	





Dimensional drawing N° 1



## 121KH Series



## 2 way valves, normally closed

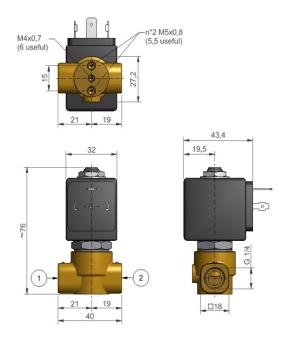
Our Parker range of healthy solenoid valves provides you with top-class performance as a result of the entire stainless steel structure of the valve pilots.

Compact and robust at the same time, the stainless steel nozzle included in all 32mm operated range improves valve life, endurance and resistance to lime-scale build up effect. A wide range of electrical parts can be used with this valve, including IP65 VDE and UL solutions. Typical applications include cold water loading function or hot water-steam on/off control.

Valve body: forged brass, CW510L UNI EN 12165

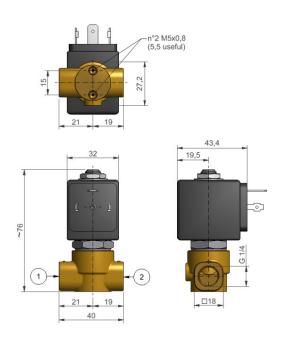
Seals: FDA FKM, Ruby

1	/4" P	ipe N	/lour	nting	Con	necti	on			ļ	2	<b>↑</b> z				
Port Size	Orifice Ø	Flow Fa	actors		iting Pre ifferentia		Flu Tempe	uid rature	Seat Seal	Park	er Valves		Pov	er/	Coil Group	Dwg N°
	mm	Kv I/min	KV m³/h	Min. Bar	•	MOPD) DC bar	Min. °C	Max.		Valve Ref.	Housing Ref.	Coil Ref.	AC W	DC W		
	1.5	1.5	0.09	0	20	18	-10	140	FDA FKM	121KH1015	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.6	0.16	0	20	15	-10	140	FDA FKM	121KH1020	2995	481865	9	8	2.0, 2.1, 2.2	2
	2.5	3.5	0.21	0	19	14.5	-10	140	FDA FKM	121KH1025	2995	481865	9	8	2.0, 2.1, 2.2	_
	3.0	4.5	0.27	0	13	8.5	-10	140	FDA FKM	121KH1030	2995	481865	9	8	2.0, 2.1, 2.2	
G1/4	4.0	5.5	0.33	0	9	6	-10	140	FDA FKM	121KH1040	2995	481865	9	8	2.0, 2.1, 2.2	- 3
G1/4	5.0	9.5	0.57	0	2.5	2	-10	140	FDA FKM	121KH1050	2995	481865	9	8	2.0, 2.1, 2.2	
	1.5	1.5	0.09	0	20	18	-10	140	Ruby	121KH0015	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.6	0.16	0	20	15	-10	140	Ruby	121 KH0020	2995	481865	9	8	2.0, 2.1, 2.2	- 2
	2.5	3.5	0.21	0	19	14.5	-10	140	Ruby	121KH0025	2995	481865	9	8	2.0, 2.1, 2.2	_
	3.0	4.5	0.27	0	13	8.5	-10	140	Ruby	121KH0030	2995	481865	9	8	2.0, 2.1, 2.2	





Dimensional drawing N° 2





Dimensional drawing N° 3



## 121FH Series 2 way valves, normally closed



Our Parker range of healthy solenoid valves provides you with top-class performance as a result of the entire stainless steel structure of the valve pilots.

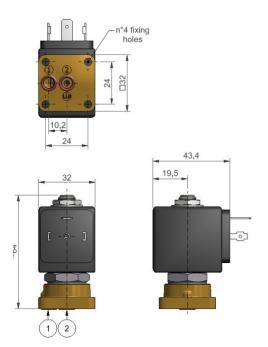
Compact and robust at the same time, the stainless steel nozzle included in all 32mm operated range improves valve life, endurance and resistance to lime-scale build up effect. A wide range of electrical parts can be used with this valve, including IP65 VDE and UL solutions. Typical applications include cold water loading function or hot water-steam on/off control.

Valve body: forged brass, CW510L UNI EN 12165

Seals: FDA FKM, Ruby



F	lanç	jed	(SB	) Co	onne	ction						1	Z			
Port Size	Orifice Ø	Flo Fac			rating P Differen	ressure itial	-	luid erature	Seat Seal	Parl	er Valves		Pov	ver	Coil Group	Dwg N°
		Kv	KV	Min.	Max.	(MOPD)	Min.	Max.					AC	DC		
	mm	l/min	m³/h	Bar	AC bar	DC bar	°C	°C		Valve Ref.	Housing Ref.	Coil Ref.	w	w		
	1.5	1.4	0.08	0	20	20	-10	140	FDA FKM	121FH1015	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.3	0.14	0	20	20	-10	140	FDA FKM	121FH1020	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	3.0	0.18	0	20	14	-10	140	FDA FKM	121FH1025	2995	481865	9	8	2.0, 2.1, 2.2	
SB	3.0	3.4	0.2	0	17	10	-10	140	FDA FKM	121FH1030	2995	481865	9	8	2.0, 2.1, 2.2	
36	1.5	1.4	0.08	0	20	20	-10	140	Ruby	121FH0015	2995	481865	9	8	2.0, 2.1, 2.2	4
	2.0	2.3	0.14	0	20	20	-10	140	Ruby	121FH0020	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	3.0	0.18	0	20	14	-10	140	Ruby	121FH0025	2995	481865	9	8	2.0, 2.1, 2.2	
	3.0	3.4	0.2	0	17	10	-10	140	Ruby	121FH0030	2995	481865	9	8	2.0, 2.1, 2.2	





Dimensional drawing N° 4



## 131ZH Series 3 way valves, normally closed



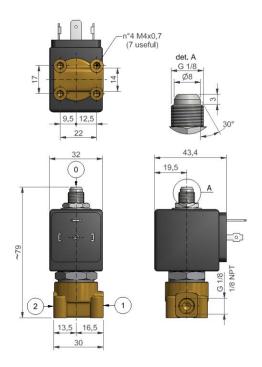
Our Parker range of healthy solenoid valves provides you with top-class performance as a result of the entire stainless steel structure of the valve pilots.

Compact and robust at the same time, the stainless steel nozzle included in all 32mm operated range improves valve life, endurance and resistance to lime-scale build up effect. A wide range of electrical parts can be used with this valve, including IP65 VDE and UL solutions. Typical applications include cold water loading function or hot water-steam on/off control.

Valve body: forged brass, CW510L UNI EN 12165

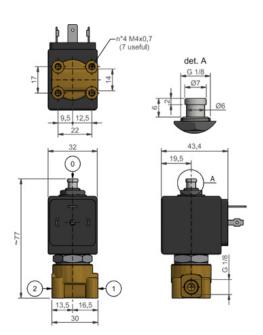
Seals: FDA FKM, Ruby

1,	/8" F	Pipe	Мо	un	ting	Conn	ecti	on			0 9					
Port Size	Orifice Ø	Flow	Factors	Оре	erating F Differe	Pressure ntial		luid erature	Seat Seal	Parke	r Valves		Pov	wer	Coil Group	Dwg N°
		Kv	KV	Min.	Max.	(MOPD)	Min.	Max.					AC	DC		
	mm	l/min	m³/h	Bar	AC bar	DC bar	°C	°C		Valve Ref.	Housing Ref.	Coil Ref.	W	W		
	1.5	1.4	0.08	0	20	20	-10	140	FDA FKM	131ZH1115	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.0	0.12	0	14	14	-10	140	FDA FKM	131ZH1120	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	3.0	0.18	0	8.5	8.5	-10	140	FDA FKM	131ZH1125	2995	481865	9	8	2.0, 2.1, 2.2	
04/0	3.0	3.7	0.22	0	6	6	-10	140	FDA FKM	131ZH1130	2995	481865	9	8	2.0, 2.1, 2.2	_
G1/8	1.5	1.4	0.08	0	20	20	-10	140	Ruby	131ZH1115	2995	481865	9	8	2.0, 2.1, 2.2	- 5
	2.0	2.0	0.12	0	14	14	-10	140	Ruby	131ZH1120	2995	492425	9	8	2.0, 2.1, 2.2	
	2.5	3.0	0.18	0	8.5	8.5	-10	140	Ruby	131ZH0125	2995	481865	9	8	2.0, 2.1, 2.2	
	3.0	3.7	0.22	0	6	6	-10	140	Ruby	131ZH0130	2995	481865	9	8	2.0, 2.1, 2.2	
	1.5	1.4	0.1	0	20	20	-10	140	FDA FKM	131ZH1315	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.0	0.1	0	14	14	-10	140	FDA FKM	131ZH1320	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	3.0	0.2	0	8.5	8.5	-10	140	FDA FKM	131ZH1325	2995	481865	9	8	2.0, 2.1, 2.2	-
	3.0	3.7	0.2	0	6	6	-10	140	FDA FKM	131ZH1330	2995	481865	9	8	2.0, 2.1, 2.2	
G1/8"	1.5	1.4	0.1	0	20	20	-10	140	Ruby	131ZH0315	2995	481865	9	8	2.0, 2.1, 2.2	- 6
	2.0	2.0	0.1	0	14	14	-10	140	Ruby	131ZH0320	2995	481865	9	8	2.0, 2.1, 2.2	
-	2.5	3.0	0.2	0	8.5	8.5	-10	140	Ruby	131ZH0325	2995	481865	9	8	2.0, 2.1, 2.2	=
	3.0	3.7	0.2	0	6	6	-10	140	Ruby	131ZH0330	2995	481865	9	8	2.0, 2.1, 2.2	
	1.5	1.4	0.08	0	20	20	-10	140	FDA FKM	U131ZH1115	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.0	0.12	0	14	14	-10	140	FDA FKM	U131ZH1120	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	3.0	0.18	0	8.5	8.5	-10	140	FDA FKM	U131ZH1125	2995	481865	9	8	2.0, 2.1, 2.2	-
NPT	3.0	3.7	0.22	0	6	6	-10	140	FDA FKM	U131ZH1130	2995	481865	9	8	2.0, 2.1, 2.2	
1/8"	1.5	1.4	0.08	0	20	20	-10	140	Ruby	U131ZH0115	2995	481865	9	8	2.0, 2.1, 2.2	- 5
	2.0	2.0	0.12	0	14	14	-10	140	Ruby	U131ZH0120	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	3.0	0.18	0	8.5	8.5	-10	140	Ruby	U131ZH0125	2995	481865	9	8	2.0, 2.1, 2.2	
	3.0	3.7	0.22	0	6	6	-10	140	Ruby	U131ZH0130	2995	481865	9	8	2.0, 2.1, 2.2	





Dimensional drawing N° 5





Dimensional drawing N° 6



## 131KH Series 3 way valves, normally closed



Our Parker range of healthy solenoid valves provides you with top-class performance as a result of the entire stainless steel structure of the valve pilots.

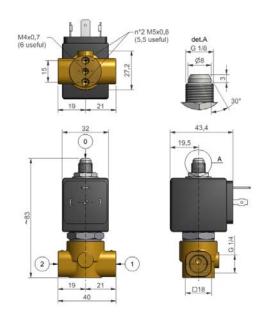
Compact and robust at the same time, the stainless steel nozzle included in all 32mm operated range improves valve life, endurance and resistance to lime-scale build up effect. A wide range of electrical parts can be used with this valve, including IP65 VDE and UL solutions. Typical applications include cold water loading function or hot water-steam on/off control.

Valve body: forged brass, CW510L UNI EN 12165

Seals: FDA FKM, Ruby

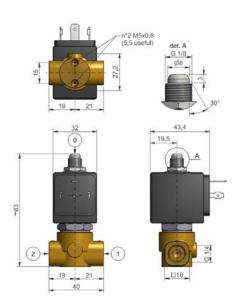


					Conn								Z			
Port Size	Orifice Ø	Flow F	actors		ating Pre Differentia			uid erature	Seat Seal	Park	er Valves	;	Pov	wer	Coil Group	Dwg N°
		Kv	KV	Min.	Max. (	MOPD)	Min.	Max.					AC	DC		
	mm	l/min	m³/h	Bar	AC bar	DC bar	°C	°C		Valve Ref.	Housing Ref.	Coil Ref.	w	w		
	1.5	1.4	0.08	0	20	20	-10	140	FDA FKM	131KH1115	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.0	0.12	0	14	14	-10	140	FDA FKM	131KH1120	2995	481865	9	8	2.0, 2.1, 2.2	7
	2.5	3.0	0.18	0	8.5	8.5	-10	140	FDA FKM	131KH1125	2995	481865	9	8	2.0, 2.1, 2.2	1
	3.0	3.7	0.22	0	6	6	-10	140	FDA FKM	131KH1130	2995	481865	9	8	2.0, 2.1, 2.2	
G1/4	4.0	5.2	0.31	0	3.5	3.5	-10	140	FDA FKM	131KH1140	2995	481865	9	8	2.0, 2.1, 2.2	8
G1/4	5.0	9.3	0.56	0	2	2	-10	140	FDA FKM	131KH1150	2995	492425	14	14	-	
	1.5	1.4	0.08	0	20	20	-10	140	Ruby	131KH0115	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.0	0.12	0	14	14	-10	140	Ruby	131KH0120	2995	481865	9	8	2.0, 2.1, 2.2	7
	2.5	3.0	0.18	0	8.5	8.5	-10	140	Ruby	131KH0125	2995	481865	9	8	2.0, 2.1, 2.2	,
	3.0	3.7	0.22	0	6	6	-10	140	Ruby	131KH0130	2995	481865	9	8	2.0, 2.1, 2.2	





Dimensional drawing N° 7





Dimensional drawing N° 8



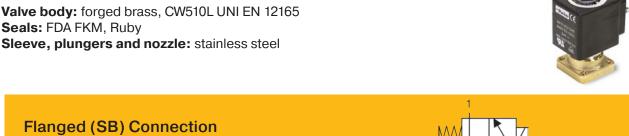
## 131FH Series 3 way valves, normally closed



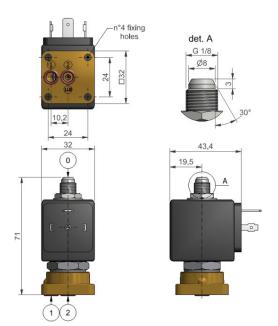
Our Parker range of healthy solenoid valves provides you with top-class performance as a result of the entire stainless steel structure of the valve pilots.

Compact and robust at the same time, the stainless steel nozzle included in all 32mm operated range improves valve life, endurance and resistance to lime-scale build up effect. A wide range of electrical parts can be used with this valve, including IP65 VDE and UL solutions. Typical applications include cold water loading function or hot water-steam on/off control.

Valve body: forged brass, CW510L UNI EN 12165

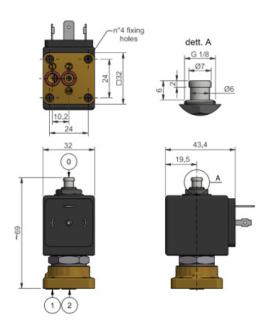


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ľ	ange	o (S	ک رق	OH	iectic	,,,,					MW_,					
Port Size	Orifice Ø	Flow F	actors	Оре	erating Pr Differen		-	luid erature	Seat Seal	Par	ker Valves	2	Po	wer	Coil Group	Dwg N°
		Kv	KV	Min.	Max. (	MOPD)	Min.	Max.					AC	DC		
	mm	I/min	m³/h	Bar	AC bar	DC bar	°C	°C		Valve Ref.	Housing Ref.	Coil Ref.	w	w		
	1.5	1.3	0.08	0	20	20	-10	140	FDA FKM	131FH1115	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.0	0.12	0	15	15	-10	140	FDA FKM	131FH1120	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	2.6	0.16	0	10	10	-10	140	FDA FKM	131FH1125	2995	481865	9	8	2.0, 2.1, 2.2	
SB	3.0	3.0	0.18	0	7.5	7.5	-10	140	FDA FKM	131 FH 1130	2995	481865	9	8	2.0, 2.1, 2.2	- 9
30	1.5	1.3	0.08	0	20	20	-10	140	Ruby	131FH0115	2995	481865	9	8	2.0, 2.1, 2.2	9
	2.0	2.0	0.12	0	15	15	-10	140	Ruby	131FH0120	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	2.6	0.16	0	10	10	-10	140	Ruby	131 FH0125	2995	481865	9	8	2.0, 2.1, 2.2	
	3.0	3.0	0.18	0	7.5	7.5	-10	140	Ruby	131 FH0130	2995	481865	9	8	2.0, 2.1, 2.2	
	1.5	1.3	0.08	0	20	20	-10	140	FDA FKM	131FH1315	2995	481865	9	8	2.0, 2.1, 2.2	
	2.0	2.0	0.12	0	15	15	-10	140	FDA FKM	131FH1320	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	2.6	0.16	0	10	10	-10	140	FDA FKM	131FH1325	2995	481865	9	8	2.0, 2.1, 2.2	
SB	3.0	3.0	0.18	0	7.5	7.5	-10	140	FDA FKM	131FH1330	2995	481865	9	8	2.0, 2.1, 2.2	10
30	1.5	1.3	0.08	0	20	20	-10	140	Ruby	131FH0315	2995	481865	9	8	2.0, 2.1, 2.2	10
	2.0	2.0	0.12	0	15	15	-10	140	Ruby	131FH0320	2995	481865	9	8	2.0, 2.1, 2.2	
	2.5	2.5	0.16	0	10	10	-10	140	Ruby	131FH0325	2995	481865	9	8	2.0, 2.1, 2.2	
	3.0	3.0	0.18	0	7.5	7.5	-10	140	Ruby	131FH0330	2995	481865	9	8	2.0, 2.1, 2.2	





Dimensional drawing N° 9





Dimensional drawing N° 10

2/2



## 121KH Series with manual flow regulator

## 2 way valves, normally closed

121KH series provides superior performance, resulting from the entire stainless steel structure of the valve pilots. The structure of the manual regulator is made by stainless steel, which improves reliability and offers a repetitive precision in calibration also after many regulations. A wide range of electrical parts might be used with this valve, including IP65 VDE and UL solutions.

Fluids: cold and hot water, within the media temperature limits

Valve body: forged brass, CW510L UNI EN 12165

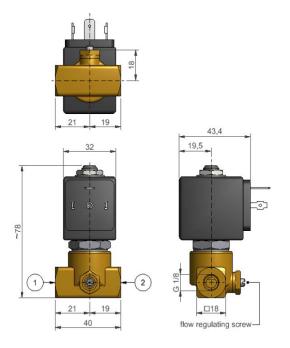
Seals: FDA FKM

Sleeve and plungers: stainless steel

Regulation screw to adjust flow rate: stainless steel



	3" Pipo nual cal		_			n			- jy	2 1	Z			
Port Size	Orifice Ø	Flow F	actors	-	rating Pres Differentia		Fluid Max.	Seat Seal	Par	ker Valve	s	Pov	er	Dwg N°
				Min.	Max.(I	MOPD)	Temp. C°		Valve	Housing	Coil	20		
		l/m	m³/h	Bar	AC bar	DC bar			Ref.	Ref.	Ref.	DC	AC	
G1/8	1.5	0.83	0.05	0	15	15	140	FDA FKM	121KH1465	2995	481865	9	8	11





Dimensional drawing N° 11





## 121WH Series - Compact 2 way valves, normally closed

121WH series is a small, compact and flexible 2/2 solution, with a robust stainless steel operator. 1/8" ports and wide range of valve orifices are available. IP65 electrical parts as well as UL/CSA recognized electrical parts may be used with this valve.

Typical applications: cold water, hot water and steam on/off control.

Fluids: cold and hot water, within the media temperature limits

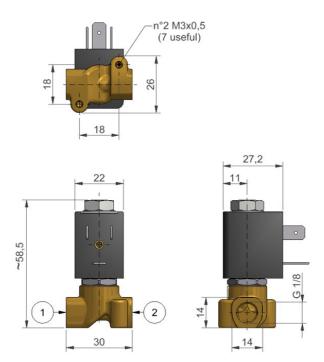
Valve body: forged brass, CW510L UNI EN 12165

Seals: FDA FKM

Sleeve, plungers: stainless steel



1	/8" I	Pipe	Mou	nting	g Con	nect	ion				M	2	z			
Port Size	Orifice Ø	Flow F	Factors		ating Pre Differenti		FI Tempe	uid erature	Seat Seal	Park	er Valves		Pov	ver	Coil Group	Dwg N°
		Kv	KV	Min.		ax. PD)	Min.	Max.					AC	DC		
	mm	l/min	m³/h	Bar	AC bar	DC bar	°C	°C		Valve Ref.	Housing Ref.	Coil Ref.	W	W		
	1.0	0.5	0.03	0	20	20	-10	140	FDA FKM	121WH1010	8993	481180	4	5	1.1, 1.3	
	1.2	0.7	0.04	0	20	12	-10	140	FDA FKM	121WH1012	8993	481180	4	5	1.1, 1.3	
C1/0	1.5	1	0.06	0	20	10	-10	140	FDA FKM	121WH1015	8993	481180	4	5	1.1, 1.3	- 12
G1/8	1.8	0.9	0.05	0	19	7.5	-10	140	FDA FKM	121WH1018	8993	481180	4	5	1.1, 1.3	12
	2.0	1.8	0.11	0	15	7	-10	140	FDA FKM	121WH1020	8993	481180	4	5	1.1, 1.3	
	2.5	2.3	0.14	0	10	4	-10	140	FDA FKM	121WH1025	8993	481180	4	5	1.1, 1.3	





Dimensional drawing N° 12

3/2





131WH series is a small, compact and flexible 3/2 solution, with a robust stainless steel operator. 1/8" ports and wide range of valve orifices are available. IP65 electrical parts as well as UL/CSA recognized electrical parts may be used with this valve.

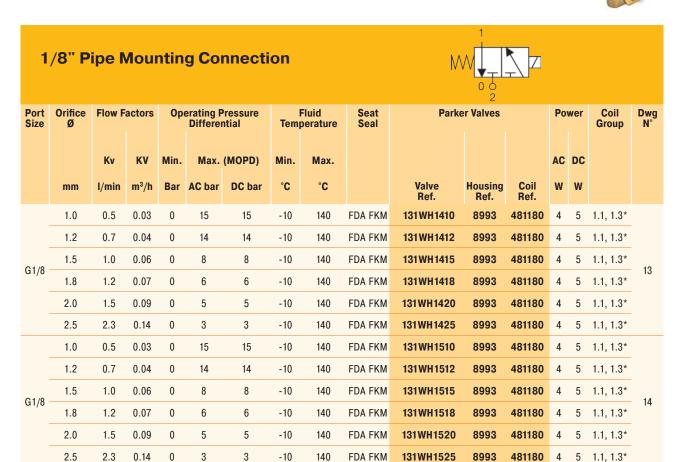
Typical application: cold water, hot water and steam on/off control.

Fluids: cold and hot water, within the media temperature limits

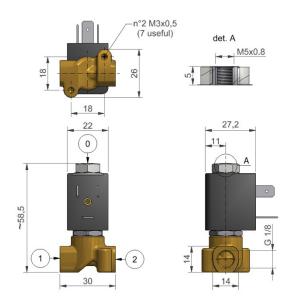
Valve body: forged brass, CW510L UNI EN 12165

Seals: FDA FKM

Sleeve, plungers: stainless steel

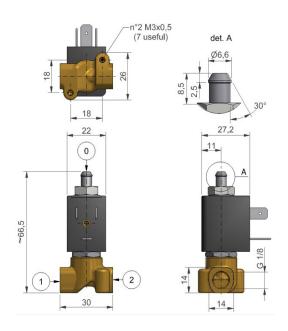


<sup>\* 1.3</sup> Coil group solution applicable in AC voltages only





Dimensional drawing N° 13





Dimensional drawing N° 14



## Housing for 22 mm coil



Composed of a nameplate with the details of the valve type, a washer and a nut to secure the 22 mm coil to the valve.

Reference	Specification	Application
8993	Standard - aluminium nameplate - passivated washer and nut - pressure indication in [bar]	Compact valves 121WH/131WH Series

## Housing for 32 mm coil



Composed of a nameplate giving details of the valve type, a round washer and a nut to ensure the fixing between 32 mm coil and the valve.

Reference	Specification	Application
2995	Standard - aluminium nameplate - passivated iron washer and nut - pressure indication in [bar]	ZH, FH and KH valve families



## 



481865/483510 Series

These coils can be mounted with every Parker solenoid valves corresponding to the specified coil group. See column "Coil Group" valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

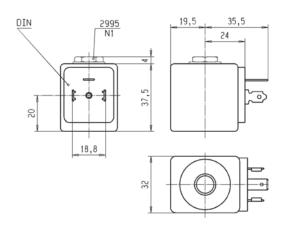
Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc. Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive 2014/35/EU.



Spec	ificati	on		S	tandard		Doubl	e frequency
Refe	rence	(without DIN plug)		4	481865		4	483510
Coil	group					2.	0 / 2.1	
Degi	ee of p	protection			IP65 according	to IEC / EN	60529 standards (with DIN	l plug)
Clas	s of in	sulation				F	155°C	
Elec	trical o	onnection		The co	oil is connected wit	h a 2 P + E	plug according to EN 1753	01-803 type A
Amb	ient te	mperature		Т	he application is lin		to +50°C y the temperature range of	f the valve
	DC	Pn (hot)			9 W			-
Elect.	DC	P (cold) 20°C			12 W			-
Ele Po	AC	Pn (holding)			8 W			9 W
	AC	Attraction cold		26	VA (9 W)		32	VA (10 W)
Weig	jht					130 g (v	vithout plug)	
Volta	iges "l	Jn"	VAC/Hz	Code	VDC	Code	VAC/Hz	Code
-10%	-10% to +10% of the Un		24/50 110/50 220-230/50	A2 A5 3D	24	C2	24/50, 24/60 110-115/50, 120/60 220-240/50, 240/60	P0 S5 S6

To order a coil choose Coil Ref + Voltage Code, example: 481865 for 24 VDC = 481865C2

These coils must be used with suitable housing 2995.





## 491514 Series - UL recognized

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group. See column "Coil Group" valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc. Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive 2014/35/EU.

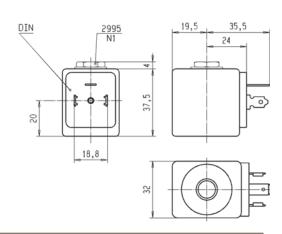
DIN plug connector to be ordered separately (see coil accessories section).



Specification		on	UL-recognized coil - UL File E200N - designation AMIF					
Ref. (without DIN plug)			491514					
Coil group			2.0 / 2.1					
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug)					
Class of insulation			F 155°C					
Electrical connection		onnection	The coil is connected with a 2 P + E plug according to EN 175301-803 type A					
Ambient temperature		mperature	$-40^{\circ}\text{C}$ to $+50^{\circ}\text{C}$ The application is limited also by the temperature range of the valve					
	DC	Pn (hot)		-	12 W			
Elect.	DC	P (cold) 20°C		-	16 W			
P E	AC	Pn (holding)	11 W		-			
	AC	Attraction cold	40 V	40 VA (13 W)		-		
Weight			130 g (without plug)					
Voltages "Un"		ln"	VAC/Hz	Code	VDC	Code		
- 15% to +10% of the Un		% of the Un	110/50-120/60 220/50-240/60	P3 Q3	24	С		

To order a coil choose Coil Ref + Voltage Code, example: 491514 for 24 VDC = 491514C2

These coils must be used with suitable housing 2995.





## 492453/492425 Series - High Temperature

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group. See column "Coil Group" valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

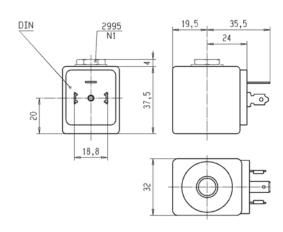
Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive 2014/35/EU.



Specification			High tem	perature		High temp. + high power				
Reference (without DIN plug)				492	453		492425			
Coil Group				2.0	/ 2.1		2.0 / 2.2			
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug)							
Class of insulation			H 180°C							
Electrical connection			The coil is connected with a 2 P + E plug according to EN 175301-803 type A							
Ambient temperature		$-40^{\circ}\text{C}$ to $+50^{\circ}\text{C}$ The application is limited also by the temperature range of the valve								
	DC	Pn (hot)	9 W				14 W			
Elect. Power		P (cold) 20°C	12 W				21 W			
Po E	AC	Pn (holding)		8	8 W		14 W			
	AC	Attraction cold	26 VA (9 W)				55 VA (18 W)			
Weight		130 g (without plug)								
Voltages "Un" -10% to +10% of the Un		VAC/Hz	Code	VDC	Code	VAC/Hz	Code	VDC	Code	
		24/50 110/50 220/50-230/50	A2 A5 3D	24	C2	24/50 110/50 230/50	A2 A5 F4	24	C2	

To order a coil choose Coil Ref + Voltage Code, example: 492453 for 24 VDC = 492453C2

These coils must be used with suitable housing 2995.







## 481180 Series

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group. See column "Coil Group" valve pages.

This coil is designed for valves equipped with a miniature tube assembly (2000 series valves). This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

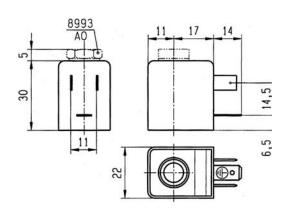
Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc. Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive 2014/35/EU.



Specification			Standard					
Reference (without DIN plug)			481180					
Coil group			1.1					
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug)					
Class of insulation			F 155°C					
Electrical connection		onnection	The coil is connected with a 2 P + E plug according to EN 175301-803 type A					
Ambient temperature		nperature	-40°C to +50°C The application is limited also by the temperature range of the valve					
	DC	Pn (hot)	5 W					
Elect. Power		P (cold) 20°C	6.5 W					
Po Ele	AC	Pn (holding)	4 W					
	AC	Attraction cold	8.9 VA (5W)					
Weigh	nt		100 g (with plug)					
Voltages "Un"		ln"	VAC/Hz	Code	VDC	Code		
- 15% to +10% of the Un		0% of the Un	24/50 110/50-115/50 220/50-230/50	A2 0A 3D	24	C2		

To order a coil choose Coil Ref + Voltage Code, example: C2 for 24 VDC = 481180C2

These coils must be used with suitable housing 8993.





## WB Series - UL Recognized

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group. See column "Coil Group" valve pages.

Coil manufactured with H class copper wire, moulded in thermoplastic material polyester with 30% glass fiber. IP65 protection rate with EN 175301-803 - Type A three pin connector and appropriate gasket.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive 2014/35/EU.

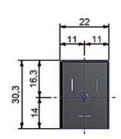
For UL recognized version: UL file MH19410

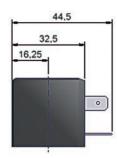
DIN plug connector to be ordered separately (see coil accessories section).



Specification		ion	Standard	UL recognized version			
Reference (without DIN plug)		(without DIN plug)	WB4.5 for AC WB5.0 for DC	WB4.5 cURus WB5.0 cURus			
Coil Group		)	1.3				
Degi	Degree of protection		IP65 according to IEC / EN 60529 standards (with DIN plug + gasket)				
Clas	Class of insulation		F 155°C	F 155°C			
Elec	Electrical connection		The coil is connected with a 2 P + E plug according to EN 175301-803 type B				
Amb	Ambient temperature		-10°C to +50°C The application is limited also by th	-10°C to +50°C e temperature range of the valve.			
.: 5	DC	P (cold) 20°C	5 W	-			
Elect.		Pn (holding)	4.5 W	4.5 W			
ша	AC	Attraction cold	7.5 VA	7.5 VA			
Weig	Weight		90 g (without plug)				
Volta	Voltages "Un"		WB4.5 VAC/Hz	WB4.5 UR VAC/Hz			
	-10% to +10% of Un for AC - 5 % to + 10 % for Un DC		24/50-60 115/50-60 230/50-60	115/60 208-240/60 24/60 <b>WB5.0 cURus VDC</b> 24 VDC			

This coil does not require housings if ordered together with the valve.





## **Accessories**

## Coil accessories

### **DIN PLUG CONNECTOR ACCORDING TO EN 175301-803-B**

Part number No. 600040

Max A: 16 A

Cable section: 6 - 8 mm2 Nominal voltage: 250-/300 V= Dimensional drawing N°15



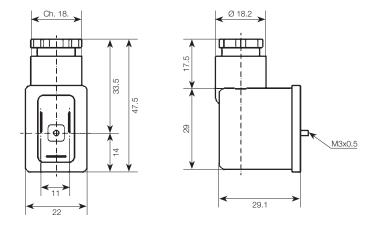
#### **DIN PLUG CONNECTOR ACCORDING TO EN 175301-803 - A**

Part number No. 600003PLUG

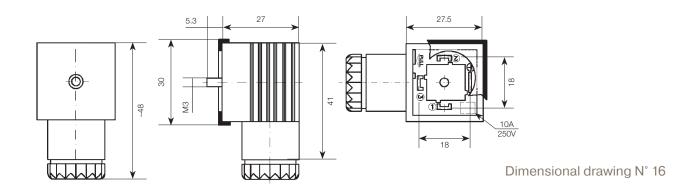
Max A: 16A

Cable section: 6-10mm2 Nominal voltage: 250-/300 V = Dimensional drawing N°16





Dimensional drawing N° 15



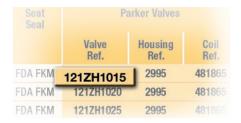
All dimensions are in mm

## How to order

To order a complete solenoid valve, please select the 3 elements following the procedure below.

## Step 1

Select the pressure vessel reference needed on pages 8-24.





## Step 2

Select housing on page 26.



## Step 3

Select coil on page 27.

Note: WB coil series does not require housing if ordered together with the valve.





## Step 4

Select accessories on page 32.



Complete valve example:

121ZH1015-2995-481865C2

### Ordering a product or a configuration not listed in the catalogue.

When an application demands a combination of features not listed in the catalogue, please feel free to contact the closest Parker office. Parker personnel will assist you in determining the applicability availability and price of the new product.

## Parker's Motion & Control Technologies

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value.

Whatever the motion and control technology need,
Parker has the experience, breadth of product and global reach to consistently deliver.
No company knows more about motion and control technology than Parker.

For further info call 00800 27 27 5374



#### Aerospace

## Key Markets Aftermarket services

Commercial transports Engines General & business aviation Helicopters Launch vehicles Military aircraft Missiles

Power generation Regional transports Unmanned aerial vehicles

## **Key Products**

Control systems & actuation products
Engine systems & components
Fluid conveyance systems & components
Fluid metering, delivery & atomization devices
Fuel systems & components
Fuel tank inerting systems
Hydraulic systems
& components
Thermal

management

Wheels & brakes



#### Climate Control

#### **Key Markets**

Agriculture
Air conditioning
Construction
Machinery
Food &
beverage
Industrial
machinery
Life sciences
Oil & gas
Precision
cooling
Process
Refrigeration
Transportation

## Key Products Accumulators

Advanced actuators CO, controls Electronic controllers Filter driers Hand shut-off valves Heat exchangers Hose & fittings Pressure regulating valves Refrigerant distributors Safety relief valves Smart pumps Solenoid valves Thermostatic expansion valves



## Hydraulics

#### **Key Markets**

Aerial lift Agriculture Alternative energy Construction machinery Forestry Industrial machinery Machine tools Marine Material handling Mining Oil & gas Power generation Refuse vehicles Renewable energy Truck hydraulics Turf equipment

## **Key Products**

Accumulators Cartridge valves Electrohydraulic actuators Human machine interfaces Hybrid drives Hydraulic cylinders Hydraulic motors & Hydraulic systems Hydraulic valves & controls Hydrostatic steering Integrated hydraulic circuits Power take-offs Power units Rotary actuators Sensors



#### **Pneumatics**

#### **Key Markets**

Aerospace
Conveyor &
material
handling
Factory automation
Life science &
medical
Machine tools
Packaging
machinery
Transportation &
automotive

#### **Key Products**

Air preparation Brass fittings & valves Manifolds **Pneumatic** accessories **Pneumatic** actuators & arippers Pneumatic valves & controls Quick disconnects **Rotary actuators** Rubber & thermoplastic hose & couplings Structural extrusions Thermoplastic tubing & fittings Vacuum generators, cups & sensors



#### Electromechanical

#### **Key Markets**

Aerospace
Factory automation
Life science &
medical
Machine tools
Packaging
machinery
Paper machinery
Plastics machinery
& converting
Primary metals
Semiconductor &
electronics
Textile
Wire & cable

#### **Key Products**

AC/DC drives & systems
Electric actuators, gantry robots & slides
Electrohydrostatic actuation systems
Electromechanical actuation systems
Human machine interface
Linear motors
Stepper motors, servo motors, drives & controls
Structural extrusions



## Filtration

#### **Key Markets**

Aerospace
Food & beverage
Industrial plant &
equipment
Life sciences
Marine
Mobile equipment
Oil & gas
Power generation &
renewable energy
Process
Transportation
Water Purification

#### **Key Products**

Analytical gas generators Compressed air filters & dryers Engine air, coolant, fuel & oil filtration Fluid condition monitoring systems Hydraulic & lubrication Hydrogen, nitrogen & zero air generators Instrumentation filters Membrane & fiber filters Microfiltration Sterile air filtration

Water desalination &

purification filters & systems



### Fluid & Gas Handling

#### **Key Markets**

Aerial lift Agriculture **Bulk chemical** handling Construction machinery Food & beverage Fuel & gas delivery Industrial machinery Life sciences Marine Mining Mobile Oil & gas Renewable energy Transportation

#### **Key Products**

Check valves Connectors for low pressure fluid conveyance Deep sea umbilicals Diagnostic equipment Hose couplings Industrial hose Mooring systems & power cables PTFE hose & tubing Quick couplings Rubber & thermoplastic hose Tube fittings & adapters Tubing & plastic fittings



### **Process Control**

## **Key Markets**

Alternative fuels Biopharmaceuticals Chemical & refining Food & beverage Marine & shipbuilding Medical & dental Microelectronics **Nuclear Power** Offshore oil exploration Oil & gas Pharmaceuticals Power generation Pulp & paper Steel Water/wastewater

## **Key Products**

Analytical Instruments Analytical sample conditioning products Chemical injection fittings & valves Fluoropolymer chemical delivery fittings, valves & pumps High purity gas delivery fittings, valves, regulators & digital flow control-Industrial mass flow meters/controllers Permanent no-weld tube fittings Precision industrial regulators & flow controllers Process control double block & bleeds Process control fittings,

valves, regulators & manifold valves



## Sealing & Shielding

#### **Key Markets**

Aerospace
Chemical processing
Consumer
Fluid power
General industrial
Information technology
Life sciences
Microelectronics
Military
Oil & gas
Power generation
Renewable energy
Telecommunications
Transportation

## **Key Products**

Dynamic seals Elastomeric o-rings Electro-medical instrument design & assembly EMI shielding Extruded & precision-cut, fabricated elastomeric seals High temperature metal Homogeneous & inserted elastomeric shapes Medical device fabrication & assembly Metal & plastic retained composite seals Shielded optical windows Silicone tubing & extrusions

Thermal management

Vibration dampening

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