

# Pneumatic Products













# **Industry Standouts for Over 50 Years**

The benefits of an innovative, pneumatic coupling design were solid enough to single-handedly launch CEJN in 1955.

This reliable, easy-to-handle coupling replaced cumbersome and undependable compressed air couplings of the era and has remained a staple for customers around the world.

That original quick connect coupling keeps good company at CEJN. CEJN's strategy to provide what customers value most has enabled the company to offer numerous series of couplings that fill specific needs, as well as hose, hose kits, hose and cable reels, blowguns, air treatment products, and accessories.

Supported by global, ISO 9001-certified assembly and testing operations, CEJN products are manufactured to meet stringent functionality and quality requirements and are rigorously tested to ensure they can perform the tasks set before them.

No products are better suited to compressed air applications than CEJN pneumatic products. Each product benefits from a well-planned, well-made approach that makes it an industry standout.









### **CEJN Pneumatics Products**

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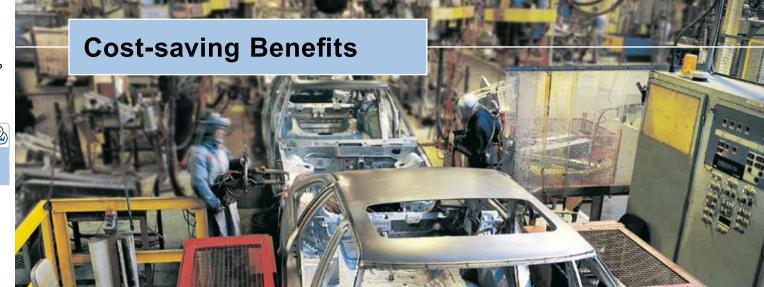


Safety Products 67



Facts and Figures  $\frac{X}{Y}=Z$  75





# Delivering Cost-saving Benefits through Well-planned Features

One of the major costs in manufacturing environments is compressed air. Optimization of compressed air systems can have a major impact on controlling costs for this on-site generated energy source.

The most common causes of energy loss in compressed air systems are leaks and pressure drop.

Leaks can be a leading source of wasted energy in compressed air systems. They can cause a drop in system pressure and shorten the life of nearly all system components.

Pressure drop leads to insufficient power for tools. Efficiency losses on tools lead to longer work cycles and higher production costs result.

CEJN pneumatic couplings are specially designed to address the primary causes of energy loss in compressed air systems through well-planned features. In turn, CEJN couplings result in significant reduction in energy consumption.

In addition to energy costs, CEJN couplings also address such problems as safety concerns, shortened component life, and high maintenance costs.

#### Air Leakage

Hole diameter – Volume of leaking air at 8 bar

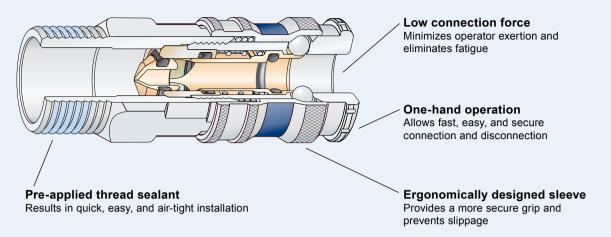
1 mm 75 l/min

3 mm 600 l/min

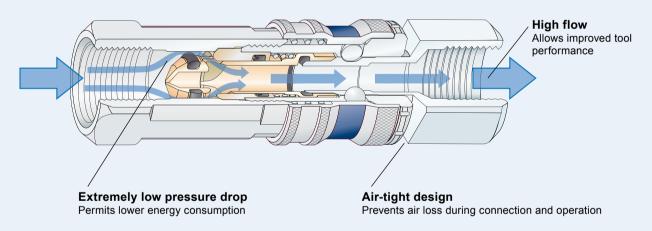
5 mm 1700 l/min



### **Easy To Handle**



## **High Efficiency**



## **Long Life**

#### **Close tolerances**

Ensure smooth, efficient operation time after time

# time after time

#### Smooth machined parts

Make sure mating parts are always properly aligned, ensuring air tightness

## Exposed surfaces are chrome-, nickel-, or zinc-plated

Pre-lubricated locking balls

Ensures resistance to corrosion and protection in harsh environments

## Hardened steel nipple bodies and locking sleeves

Prevent premature wear and provide improved vibration resistance

Offer maximum wearing strength and lengthy, uninterrupted service life

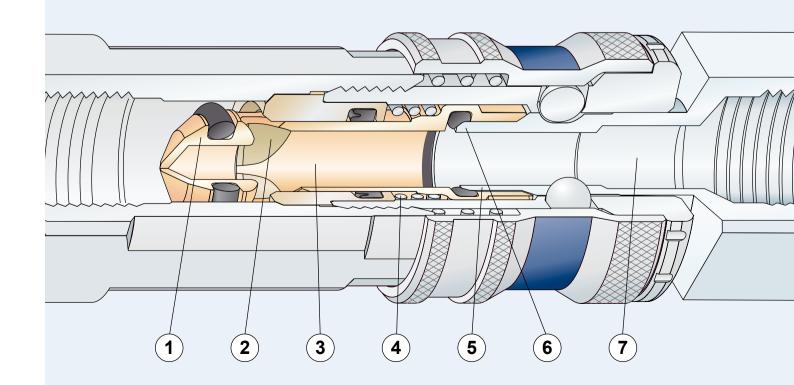
# Unique Valve Construction Adds to Superior Performance of CEJN Pneumatic Couplings

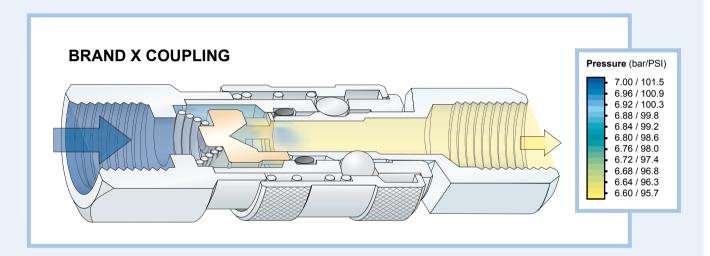
#### Numerous construction features make the CEJN valve unique:

- **1.** Aerodynamic, conical-shaped valve
  Air is allowed to flow into the valve
  without undue turbulence, resulting in
  less pressure drop and higher flow.
- **2.** Extra-large, aerodynamic-shaped ports
  Air flow is enhanced, resulting in less pressure drop and higher flow.
- **3.** Smooth, linear flow angles
  Instability and drag are eliminated, resulting in less pressure drop and higher flow.
- **4.** Valve spring located outside the flow path
  A major obstruction to flow is eliminated,
  resulting in less pressure drop and higher flow.

- **5.** Nipple goes into the valve

  The circumference of the nipple is sealed with an O-ring inside the valve, preventing leaks due to side loads and misalignment.
- **6.** *Minimal pressure area*Less surface area of the valve is exposed to pressure, resulting in lower connection force.
- 7. Hardened steel nipple machined to precise specifications
  Properly opened valve and larger inside diameter result in less pressure drop and higher flow.





# The smart design of CEJN couplings overcomes common problems associated with conventional couplings, such as:

#### Extremely high pressure drop

Caused by a valve that is flat with very sharp edges and severe flow angles

#### Excessive restrictions to flow

Caused by a spring in the flow path and very small valve ports, as well as nipples with small inside diameters

#### Leaks

Caused by metal-to-metal contact between the valve and nipple

#### High connection force

Caused by excessive surface area exposed to pressure

#### Short coupling service life

Caused by less durable, brass nipples that are prone to wear and tear

# .

# Series 300 – Standard & Vented Safety

#### **ARO 210 STANDARD**

BENELUX, NORTH AMERICA, SWITZERLAND

- Full automatic operation
- Strong and durable
- · High flow capacity

Series 300 couplings offer high flow and require only a low connection force, which ensures a safe working environment. Male threads on the couplings and nipples feature pre-applied thread sealant.

The Series 300 vented safety version is disconnected in two stages in order to vent the coupling and minimize the risk of sudden component separation, which has the potential to cause operator injury. Full automatic operation ensures easy handling. The vented safety version complies with ISO Standard 4414 and EN 983.



This series includes safety products. For other safety products, see Page 67-74.



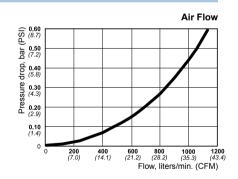
#### **STANDARD**

**Technical Data** 

Temperature range ...... -20°C to +100°C (-4°F to +212°F)

Coupling Material ...... Zinc-plated steel/brass
Nipple Material ...... Hardened zinc-plated steel

Connection force...... 70.7 N



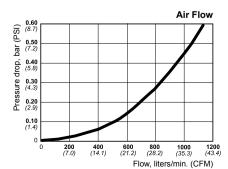
#### **VENTED SAFETY**

**Technical Data** 

**Temperature range** ...... -20°C to +80°C (-4°F to +176°F)

Coupling Material ...... Zinc-plated steel/brass

Connection force ...... 59.8 N



Flow capacity is measured at 6 bar (87 PSI) inlet pressure, and pressure drop at 0.5 bar (7 PSI). Thread connections are listed according to ISO Standards (see Page 78 for more information) Check with an authorized CEJN distributor for availability and prices.





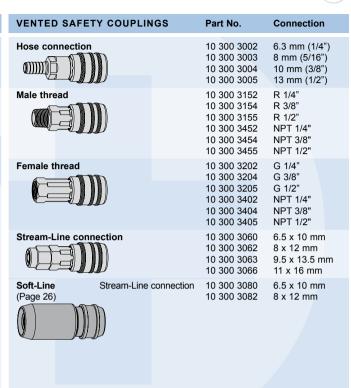
# Series 300 - Standard & Vented Safety

**ARO 210 STANDARD** 

This series includes safety products. For other safety products, see Page 67-74.



COUPLINGS	Part No.	Connection
Hose connection	10 300 1002 10 300 1003 10 300 1004	6.3 mm (1/4") 8 mm (5/16") 10 mm (3/8")
Male thread	10 300 1152 10 300 1154 10 300 1155 10 300 1452	R 1/4" R 3/8" R 1/2" NPT 1/4"
Female thread	10 300 1202 10 300 1204 10 300 1402	G 1/4" G 3/8" NPT 1/4"
Stream-Line connection	10 300 1060 10 300 1062	6.5 x 10 mm 8 x 12 mm



MULTI-LINK (Page 30)	Part No.	Connection
Center module, Vented Safety	19 902 1061	
Outlet module, Vented Safety	19 902 2061 19 902 2066	

NIPPLES	Part No.	Connection
Hose connection	10 300 5002 10 300 5003 10 300 5004	6.3 mm (1/4") 8 mm (5/16") 10 mm (3/8")
Male thread	10 300 5151 10 300 5152 10 300 5154 10 300 5155 10 300 5451 10 300 5452 10 300 5454	R 1/8" R 1/4" R 3/8" R 1/2" NPT 1/8" NPT 1/4" NPT 3/8"
Female thread	10 300 5201 10 300 5202 10 300 5204 10 300 5401 10 300 5402 10 300 5404	G 1/8" G 1/4" G 3/8" NPT 1/8" NPT 1/4" NPT 3/8"
Stream-Line connection	10 300 5058 10 300 5060 10 300 5062 10 300 5063 10 300 5066	5 x 8 mm 6.5 x 10 mm 8 x 12 mm 9.5 x 13.5 mm 11 x 16 mm
ANTI-HOSE WHIP NIPPLES	Part No.	Connection
Hose connection	10 300 8003 10 300 8004	8 mm (5/16") 10 mm (3/8")
Stream-Line connection	10 300 8060	6 x10 mm

10 300 8062

8 x12 mm





A-A 59439 (former U.S. Standard MIL C 4109 1/4"), ISO 6150 B
BENELUX, FRANCE, NORTH AMERICA, NORWAY, SWITZERLAND

- · High flow capacity
- One-hand operation
- Low connection force

Series 310 offers a wide range of easy-to-grip couplings, including Soft-Line, Stream-Line, and Multi-Link connections. Male threads on the couplings and nipples feature pre-applied thread sealant.

The Series 310 vented safety version is disconnected in two stages in order to vent the coupling and minimize the risk of sudden component separation, which has the potential to cause operator injury. Full automatic operation ensures easy handling. The vented safety version complies with ISO Standard 4414 and EN 983.



This series includes safety products. For other safety products, see Page 67-74.



#### **STANDARD**

#### **Technical Data**

 Nominal flow dia.
 5.3 mm (7/32")

 Flow capacity
 925 l/min. (32.7 CFM)

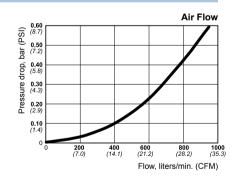
 Max. working pressure
 16 bar (232 PSI)

 Min. burst pressure
 140 bar (2030 PSI)

Temperature range ......-20°C - +100°C (-4°F - +212°F)

Coupling Material ...... Zinc-plated steel/brass
Nipple Material ...... Hardened zinc-plated steel

Connection force...... 70.7 N



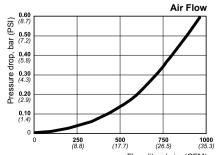
#### **VENTED SAFETY**

#### **Technical Data**

**Temperature range** ...... -20°C - +80°C (-4°F - +176°F)

Coupling Material ...... Zinc-plated steel/brass

Connection force...... 61.7 N



Flow, liters/min. (CFM)

Flow capacity is measured at 6 bar (87 PSI) inlet pressure, and pressure drop at 0.5 bar (7 PSI). Thread connections are listed according to ISO Standards (see Page 78 for more information). Check with an authorized CEJN distributor for availability and prices.

### Series 310 - Standard & Vented Safety A-A 59439 (former U.S. Standard MIL C 4109 1/4"), ISO 6150 B

This series includes safety products. For other safety products, see Page 67-74.





COUPLINGS	Part No.	Connection
Hose connection	10 310 1002 10 310 1003 10 310 1004 10 310 1005	6.3 mm (1/4") 8 mm (5/16") 10 mm (3/8") 13 mm (1/2")
Male thread	10 310 1152 10 310 1154 10 310 1155 10 310 1452 10 310 1454 10 310 1455	R 1/4" R 3/8" R 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Female thread	10 310 1202 10 310 1204 10 310 1205 10 310 1402 10 310 1404 10 310 1405	G 1/4" G 3/8" G 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Stream-Line connection	10 310 1058 10 310 1060 10 310 1062 10 310 1063 10 310 1066	5 x 8 mm 6.5 x 10 mm 8 x 12 mm 9.5 x 13.5 mm 11 x 16 mm
CEJN-Lock hose connection	10 310 1042 10 310 1044 10 310 1045	1/4" 3/8" 1/2"
Soft-Line (Page 26)  Female thread	10 310 1083 10 310 1084 10 310 1240 10 310 1241 10 310 1446 10 310 1447	6.5 x10 mm 8 x 12 mm G 1/4" G 3/8" NPT 1/4" NPT 3/8"

VENTED SAFETY COUPLINGS	Part No.	Connection
Hose connection	10 310 3002 10 310 3003 10 310 3004 10 310 3005	6.3 mm (1/4") 8 mm (5/16") 10 mm (3/8") 13 mm (1/2")
Male thread	10 310 3152 10 310 3154 10 310 3155 10 310 3452 10 310 3454 10 310 3455	R 1/4" R 3/8" R 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Female thread	10 310 3202 10 310 3204 10 310 3205 10 310 3402 10 310 3404 10 310 3405	G 1/4" G 3/8" G 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Stream-Line connection	10 310 3060 10 310 3062 10 310 3063	6.5 x 10 mm 8 x 12 mm 9.5 x 13.5 mm
Soft-Line (Page 26)  Female thread	10 310 3080 10 310 3082 10 310 3234	6.5 x 10 mm 8 x 12 mm G 3/8"

MULTI-LINK (page 30)	Part No.	Connection
Center module	19 902 1070	
Outlet module	19 902 2070 19 902 2075	G 1/2" NPT 1/2"
Center module, Vented Safety	19 902 1071	
Outlet module, Vented Safety	19 902 2071 19 902 2076	

NIPPLES	Part No.	Connection
Hose connection	10 310 5001 10 310 5002 10 310 5003 10 310 5004 10 310 5005	5 mm (3/16") 6.3 mm (1/4") 8 mm (5/16") 10 mm (3/8") 13 mm (1/2")
Male thread	10 310 5151 10 310 5152 10 310 5154 10 310 5252 10 310 5451 10 310 5452 10 310 5454 10 310 5455	R 1/8" R 1/4" R 3/8" G 1/4" NPT 1/8" NPT 1/4" NPT 3/8" NPT 1/2"
Female thread	10 310 5201 10 310 5202 10 310 5204 10 310 5401 10 310 5402 10 310 5404	G 1/8" G 1/4" G 3/8" NPT 1/8" NPT 1/4" NPT 3/8"
Stream-Line connection	10 310 5058 10 310 5060 10 310 5062 10 310 5063 10 310 5066	5 x 8 mm 6.5 x 10 mm 8 x 12 mm 9.5 x 13.5 mm 11 x 16 mm
CEJN-Lock hose connection	10 310 5042 10 310 5044 10 310 5045	1/4" 3/8" 1/2"

ANTI-HOSE WHIP NIPPLES	Part No.	Connection
Hose connection	10 310 8003 10 310 8004	8 mm (5/16") 10 mm (3/8")
Stream-Line connection	10 310 8060 10 310 8062	6.5 x 10 mm 8 x 12 mm

Air Flow





# Series 315 - Standard

#### **ASIAN STANDARD**

ASIA, ITALY, SOUTH AMERICA

- · Extremely high flow capacity
- · Low connection force
- One-hand operation

Series 315 couplings are lightweight and easy to handle, yet strong and durable. The series includes a wide range of connections, as well as anti-hose whip nipples. Male threads on the couplings and nipples feature pre-applied thread sealant.



#### **Technical Data**

Nominal flow dia	7.5 mm (5/16")
Flow capacity	1950 I/min. (68.9 CFM)
Max. working pressure	16 bar (232 PSI)
Min. burst pressure	140 bar (2030 PSI)
Temperature range	-20°C to +100°C (-4°F to +212°F)
Coupling Material	Zinc-plated steel/brass
Nipple Material	Hardened zinc-plated steel
Connection force	73 5 N



This series includes safety products. For other safety products, see Page 67-74.

COUPLINGS	Part No.	Connection
Hose connection	10 315 1002 10 315 1043 10 315 1004 10 315 1005	6.3 mm (1/4") 7 mm (9/32") 10 mm (3/8") 13 mm (1/2")
Male thread	10 315 1152 10 315 1154 10 315 1155 10 315 1452 10 315 1454 10 315 1455	R 1/4" R 3/8" R 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Female thread	10 315 1102 10 315 1104 10 315 1105 10 315 1402 10 315 1404 10 315 1405	Rc 1/4" Rc 3/8" Rc 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Stream-Line connection	10 315 1058 10 315 1060 10 315 1062 10 315 1066	5 x 8 mm 6.5 x 10 mm 8 x 12 mm 11 x1 6 mm

NIPPLES	Part No.	Connection
Hose connection	10 315 5001 10 315 5002 10 315 5043 10 315 5004 10 315 5005	5 mm (3/16") 6.3 mm (1/4") 7 mm (9/32") 10 mm (3/8") 13 mm (1/2")
Male thread	10 315 5151 10 315 5152 10 315 5154 10 315 5155 10 315 5452 10 315 5454 10 315 5455	R 1/8" R 1/4" R 3/8" R 1/2" NPT 1/4" NPT 3/8" NPT 1/2"

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(7.2)						
iq 0.40 o (5.8)						
5 1						
0.30 (4.3)						
0.20 (2.9)						
<b>0.10</b> (1.4)						
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	0 <b>5</b>	<b>00 1</b> 7.7) (3	000 1: (5.3) (5		000 25 (0.6) (88	5 <b>00</b> 8.3)
			Flo	ow, liters/n	nin. (CFM)	)

NIPPLES	Part No.	Connection
Female thread	10 315 5101 10 315 5102 10 315 5104 10 315 5105 10 315 5402 10 315 5404 10 315 5405	Rc 1/8" Rc 1/4" Rc 3/8" Rc 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Stream-Line connection	10 315 5058 10 315 5060 10 315 5062 10 315 5066	5 x 8 mm 6.5 x 10 mm 8 x 12 mm 11 x 16 mm
Stream-Line connection with kink protector	10 315 5085 10 315 5086	6.5 x 10 mm 8 x 12 mm

ANTI-HOSE WHIP NIPPLES	Part No.	Connection
Hose connection	10 315 8012 10 315 8013 10 315 8014 10 315 8015	6.3 mm (1/4") 7 mm (9/32") 10 mm (3/8") 13 mm (1/2")
Male thread	10 315 8152 10 315 8154 10 315 8452	R 1/4" R 3/8" NPT 1/4"
Female thread	10 315 8102 10 315 8402	Rc 1/4" NPT 1/4"
Stream-Line connection	10 315 8068 10 315 8070 10 315 8072 10 315 8076	5 x 8 mm 6.5 x 10 mm 8 x 12 mm 11 x 16 mm

Series 320 - Standard & Vented Safety **CEJN ORIGINAL STANDARD, EUROSTANDARD 7.6 (7.4) GLOBAL** 

- Extremely high flow capacity
- Easy to connect
- Strong and durable

Series 320 couplings feature the original high-flow valve design upon which all other CEJN pneumatic couplings are based. Their popularity has made Series 320 a European standard. The series is easy-to-handle and one-hand operated and offers long service life. Male threads on the couplings and nipples feature pre-applied thread sealant. Lightweight aluminum styles are also available (also see the Aluminum Couplings section of this catalog).

The Series 320 vented safety version is disconnected in two stages in order to vent the coupling and minimize the risk of sudden component separation, which has the potential to cause operator injury. Full automatic operation ensures easy handling. The vented safety version complies with ISO Standard 4414 and EN 983.

Refer to the CEJN Fluid Products Catalog for specialized versions of Series 320 with brass nipples (Series 321), high-pressure straight-through design (Series 322), two-way shutoff (Series 324), and stainless steel construction (Series 326).



This series includes safety products. For other safety products, see Page 67-74.



#### **STANDARD**

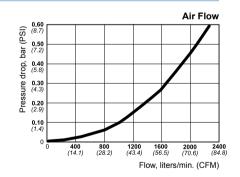
**Technical Data** 

Nominal flow dia...... 7.6 mm (5/16") Flow capacity...... 2100 l/min. (74.2 CFM) Max. working pressure ...... 16 bar (232 PSI) Min. burst pressure ...... 140 bar (2030 PSI)

Temperature range ...... -20°C to +100°C (-4°F to +212°F)

Coupling Material ...... Zinc-plated steel/brass Nipple Material ...... Hardened zinc-plated steel

Connection force...... 70.7 N



#### **VENTED SAFETY**

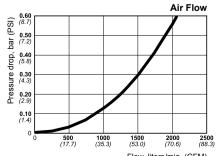
**Technical Data** 

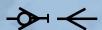
Nominal flow dia...... 7.6 mm (5/16") Max. working pressure ...... 12 bar (174 PSI) 

Temperature range ...... -20°C to +80°C (-4°F to +176°F)

Coupling Material ...... Zinc-plated steel/brass

Connection force...... 64.0 N





# 1:1

### Series 320 - Standard & Vented Safety **CEJN ORIGINAL STANDARD, EUROSTANDARD 7.6 (7.4)**

This series includes safety products. For other safety products, see Page 67-74.



COUPLINGS		Part No.	Connection
Hose connection		10 320 1002 10 320 1003 10 320 1009 10 320 1004 10 320 1005	6.3 mm (1/4") 8 mm (5/16") 9 mm 10 mm (3/8") 13 mm (1/2")
Male thread		10 320 1152 10 320 1154 10 320 1155 10 320 1452 10 320 1454 10 320 1455	R 1/4" R 3/8" R 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Female thread		10 320 1202 10 320 1204 10 320 1205 10 320 1402 10 320 1404 10 320 1405	G 1/4" G 3/8" G 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Stream-Line conn	ection	10 320 1058 10 320 1060 10 320 1062 10 320 1063 10 320 1066	5 x 8 mm 6.5 x 10 mm 8 x 12 mm 9.5 x 13.5 mm 11 x 16 mm
CEJN-Lock hose	connection	10 320 1032 10 320 1034 10 320 1035	1/4" 3/8" 1/2"
Soft-Line (Page 26)	Hose connection Stream-Line connection Female thread	10 320 1086 10 320 1087 10 320 1089 10 320 1090 10 320 1246 10 320 1247	10 mm (3/8") 13 mm (1/2") 6.5 x 10 mm 8 x 12 mm G 1/4" G 3/8"
	IIDI INGS (Page 28)	Dart No	Connection

ALUMINUM COUPLINGS (Page 28)	Part No.	Connection
Hose connection	10 320 1932 10 320 1934 10 320 1935	6.3 mm (1/4") 10 mm (3/8") 13 mm (1/2")
Female thread	10 320 1942 10 320 1972 10 320 1974	G 1/4" NPT 1/4" NPT 3/8"
Stream-Line Connection	10 320 1960 10 320 1962	6.5 x 10 mm 8 x 12 mm

MULTI-LINK (Page 30)

Center module	19 902 1080	
Outlet module	19 902 2080 19 902 2085	G 1/2" NPT 1/2"
Center module, Vented Safety	19 902 1081	
Outlet module, Vented Safety	19 902 2081 19 902 2086	G 1/2" NPT 1/2"

VENTED SAFETY COUPLINGS	Part No.	Connection
Hose connection	10 320 3002 10 320 3003 10 320 3004 10 320 3005	6.3 mm (1/4") 8 mm (5/16") 10 mm (3/8") 13 mm (1/2")
Male thread	10 320 3152 10 320 3154 10 320 3155 10 320 3452 10 320 3454 10 320 3455	R 1/4" R 3/8" R 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Female thread	10 320 3202 10 320 3204 10 320 3205 10 320 3402 10 320 3404 10 320 3405	G 1/4" G 3/8" G 1/2" NPT 1/4" NPT 3/8" NPT 1/2"
Stream-Line connection	10 320 3060 10 320 3062 10 320 3063 10 320 3066	6.5 x 10 mm 8 x 12 mm 9.5 x 13.5 mm 11 x 16 mm
Soft-Line (Page 26)  Stream-Line connection	10 320 3080 10 320 3082	6.5 x 10 mm 8 x 12 mm

NIPPLES	Part No.	Connection
Hose connection	10 320 5001 10 320 5002 10 320 5003 10 320 5004 10 320 5005	5 mm (3/16") 6.3 mm (1/4") 8 mm (5/16") 10 mm (3/8") 13 mm (1/2")
Male thread	10 320 5151 10 320 5152 10 320 5154 10 320 5155 10 320 5263 10 320 5264 10 320 5455 10 320 5451 10 320 5454 10 320 5454 10 320 5455	R 1/8" R 1/4" R 3/8" R 1/2" G 1/4" G 3/8" G 1/2" NPT 1/8" NPT 1/4" NPT 3/8" NPT 1/2"
Female thread	10 320 5201 10 320 5202 10 320 5204 10 320 5205 10 320 5402 10 320 5402 10 320 5402 10 320 5404 10 320 5405	G 1/8" G 1/4" G 3/8" G 1/2" NPT 1/8" NPT 1/4" NPT 3/8" NPT 1/2"
Stream-Line connection	10 320 5058 10 320 5060 10 320 5062 10 320 5063 10 320 5066	5 x 8 mm 6.5 x 10 mm 8 x 12 mm 9.5 x 13.5 mm 11 x 16 mm
CEJN-Lock hose connection	10 320 5032 10 320 5034 10 320 5035	1/4" 3/8" 1/2"

ANTI-HOSE WHIP NIPPLES	Part No.	Connection
Hose connection	10 320 8002 10 320 8003 10 320 8004 10 320 8005	6.3 mm (1/4") 8 mm (5/16") 10 mm (3/8") 13 mm (1/2")
Male thread	10 320 8152	R 1/4"
Stream-Line connection	10 320 8060 10 320 8062 10 320 8063 10 320 8066	6.5 x 10 mm 8 x 12 mm 9.5 x 13.5 mm 11 x 16 mm

Connection

# **Units, Conversion Tables, and Formulas**

#### Pressure

FROM	то	MULTIPLY BY	EXAMPLE
atm (atmosphere)	bar	1.01325	1.1 atm x 1.01325 = 1.115 bar
atm	MPa	0.10132	1.1 atm x 0.10132 = 0.111 MPa
atm	PSI	14.696	1.1 atm x 14.695 = 16.166 PSI
bar	atm	0.98692	10 bar x 0.98692 = 9.8692 atm
bar	MPa	0.1	10 bar x 0.1 = 1.0 MPa
bar	PSI	14.504	10 bar x 14.504 = 145 PSI
MPa (megapascal)	atm	9.8692	10 MPa x 9.8692 = 98.692 atm
MPa	bar	10	10 MPa x 10 = 100 bar
MPa	PSI	145.0	10 MPa x 145.0 = 1450 PSI
PSI (pounds / square inch)	atm	0.068	100 PSI x 0.068 = 6.80 atm
PSI	bar	0.0689	100 PSI x 0.0689 = 6.89 bar
PSI	MPa	0.00689	100 PSI x 0.00689 = 0.689 MPa

#### Flow

FROM	то	MULTIPLY BY	EXAMPLE
CFM (cubic feet / minute)	l/min	28.32	100 CFM x 28.32 = 2832 l/min
CFM	l/s	0.472	100 CFM x 0.472 = 47.2 l/s
CFM	m³/h	1.699	100 CFM x 1.699 = 169.9 m <sup>3</sup> /h
I/min (liter / minute)	CFM	0.0353	100 l/min x 0.0353 = 3.5 CFM
I/min	I/s	0.0167	100 l/min x 0.0167 = 1.7 l/s
I/min	m³/h	0.06	100 l/min x 0.06 = 6 m³/h
I/s (liter / second) I/s I/s	CFM	2.119	10 l/s x 2.119 x 21.2 CFM
	I/min	60	10 l/s x 60 = 600 l/min
	m³/h	3.6	10 l/s x 3.6 = 36 m³/h
m <sup>3</sup> /h (cubic meter / hour)	CFM	0.5885	10 m <sup>3</sup> /h x 0.5885 = 5.885 CFM
m <sup>3</sup> /h	I/min	16.667	10 m <sup>3</sup> /h x 16.667 = 166.7 l/min
m <sup>3</sup> /h	I/s	0.2777	10 m <sup>3</sup> /h x 0.2777 = 2.777 l/s

#### Volume

FROM	то	MULTIPLY BY	EXAMPLE
ft <sup>3</sup> (cubic foot) ft <sup>3</sup> ft <sup>3</sup>	gl UK gl U.S. I m³	6.228 7.48 28.32 0.0283	10 ft <sup>3</sup> x 6.228 = 62.28 gl UK 10 ft <sup>3</sup> x 7.48 = 74.8 gl U.S. 10 ft <sup>3</sup> x 28.32 = 283.2 l 10 ft <sup>3</sup> x 0.0283 = 0.283 m <sup>3</sup>
gl UK (gallon UK)	ft³	0.1605	10 gl UK x 0.1605 = 1.605 ft <sup>3</sup>
gl UK	gl U.S.	1.2009	10 gl UK x 1.2009 = 12.009 gl U.S.
gl UK	l	4.546	10 gl UK x 4.546 = 45.46 l
gl UK	m³	0.0045	10 gl UK x 0.0045 = 0.045 m <sup>3</sup>
gl U.S. (gallon U.S.)	ft <sup>3</sup>	0.1336	10 gl U.S. x 0.1336 = 1.336 ft <sup>3</sup>
gl U.S.	gl UK	0.8326	10 gl U.S. x 0.8326 = 8.326 gl UK
gl U.S.	l	3.785	10 gl U.S. x 3.785 = 37.85 l
gl U.S.	m <sup>3</sup>	0.0037	10 gl U.S. x 0.0037 = 0.037 m <sup>3</sup>
l (liter)	ft <sup>3</sup>	0.0353	100   x 0.0353 = 3.53 ft <sup>3</sup>
l	gl UK	0.220	100   x 0.220 = 22.0 gl UK
l	gl U.S.	0.264	100   x 0.264 = 26.4 gl U.S.
l	m <sup>3</sup>	0.001	100   x 0.001 = 0.1 m <sup>3</sup>
m³ (cubic meter) m³ m³	ft³ gl UK gl U.S. l	35.3 219.96 264.17 1000	10 m <sup>3</sup> x 35.3 = 353 ft <sup>3</sup> 10 m <sup>3</sup> x 219.96 = 2199.6 gl UK 10 m <sup>3</sup> x 264.17 = 2641.7 gl U.S. 10 m <sup>3</sup> x 1000 = 10 000 l

#### **Force**

FROM	то	MULTIPLY BY	EXAMPLE	
lbf (pound force)	kp	0.454	10 lbf x 0.454 = 4.54 kp	
lbf	N	4.448	10 lbf x 4.448 = 44.48 N	
kp (kilogram force)	lbf	2.205	10 kp x 2.204 = 22.05 lbf	
kp	N	9.806	10 kp x 9.806 = 98.06 N	
N (newton)	lbf	0.2248	10 N x 0.2248 = 2.25 lbf	
N	kp	0.1020	10 N x 0.1020 = 1.02 kp	

#### Length

FROM	то	MULTIPLY BY	EXAMPLE
ft (foot)	inch	12	10 ft x 12 = 120 inch
ft	m	0.3048	10 ft x 0.3048 = 3.048 m
ft	mm	304.8	10 ft x 304.8 = 3048 mm
inch	ft	0.0833	10 inch x 0.0833 = 0.833 ft
inch	m	0.0254	10 inch x 0.0254 = 0.254 m
inch	mm	25.4	10 inch x 25.4 = 254 mm
m (meter)	ft	3.28083	10 m x 3.28083 = 32.8083 ft
m	inch	39.3699	10 m x 39.3699 = 393.699 inch
m	mm	1000	10 m x 1000 = 10 000 mm
mm (millimeter)	ft	0.00328	10 mm x 0.00328 = 0.0328 ft
mm	inch	0.0393	10 mm x 0.0393 = 0.393 inch
mm	m	0.001	10 mm x 0.001 = 0.01 m

#### Mass

FROM	то	MULTIPLY BY	EXAMPLE
g (gram)	kg	0.001	10 g x 0.001 = 0.01 kg
g	lb	0.0022	10 g x 0.0022 = 0.022 lb
g	oz	0.0352	10 g x 0.001 = 0.352 oz
kg (kilogram)	g	1000	10 kg x 1000 = 10 000 g
kg	lb	2.205	10 kg x 2.205 = 22.05 lb
kg	oz	35.273	10 kg x 35.273 = 352.73 oz
lb (pound)	g	453.9	10 lb x 0.454 = 4535 g
lb	kg	0.4539	10 lb x 0.4539 = 4.535 kg
lb	oz	16	10 lb x 0.454 = 160 oz
OZ (ounce)	g	28.349	10 oz x 28.349 = 283.49 g
OZ	kg	0.0283	10 oz x 0.0283 = 0.283 kg
OZ	lb	0.0625	10 oz x 0.0625 = 0.625 lb

#### Torque

FROM	то	MULTIPLY BY	EXAMPLE
kpm (kilo pound meter)	lbfft	7.233	10 kpm x 7.233 = 72.33 lbfft
kpm	Nm	9.81	10 kpm x 9.81 = 98.1 Nm
lbfft (pound force foot) lbfft	Nm	1.356	10 kpm x 1.356 = 13.56 Nm
	Nm	0.1383	10 kpm x 0.1383 = 1.38 kpm
Nm (newton meter)	kpm	0.1020	10 Nm x 0.1020 = 1.02 kpm
Nm	Ibfft	0.7376	10 Nm x 0.7376 = 7.38 lbfft

# **Equivalent Chart for Hose and Hose Fittings**

#### Hose Size

Inner Dia. x Outer Dia. in mm	Inner Dia. x Outer Dia. in inch	U.S. Nominal
5 x 8	0.196 x 0.314	3/16" (0.1875 inch)
6.5 x 10	0.255 x 0.393	1/4" (0.250 inch)
8 x 12	0.314 x 0.472	5/16" (0.3125 inch)
9.5 x 13.5	0.374 x 0.531	3/8" (0.375 inch)
11 x 16	0.433 x 0.63	7/16" (0.4375 inch)

#### **Hose Connection Size**

Connection Size in mm	Connection Size in inch	U.S. Nominal
6.3	0.248	1/4" (0.250 inch)
10	0.393	3/8" (0.375 inch)
13	0.512	1/2" (0.5 inch)
16	0.630	5/8" (0.625 inch)
19	0.748	3/4" (0.75 inch)

# **Recommended Hose Dimension**

	Working Length 4 m	Working Length 6 m	Working Length 10 m	Working Length >20 m
Required Flow <200 l/min	5 x 8 mm	6.5 x 10 mm	6.5 x 10 mm	8 x 12 mm
Required Flow <400 l/min	6.5 x 10 mm	8 x 12 mm	8 x 12 mm	9.5 x 13.5 mm
Required Flow <600 I/min	8 x 12 mm	8 x 12 mm / 11 x 6 mm	11 x 16 mm	11 x 16 mm / 13 x 18 mm

# **Connections and Thread Standards**

		Connection	Ø (mm)	L (mm)
Hose Connection Standard hose barb for hose clamp		6.3 mm (1/4") 8 mm (5/16") 10 mm (3/8") 13 mm (1/2") 16 mm (5/8")	- - - -	18.0 18.0 21.0 21.0 23.0
Stream-Line Connection Hose barb with nut cap for reusable and safe hose clamping		5 x 8 mm 6.5 x 10 mm 8 x 12 mm 9.5 x 13.5 mm 11 x 16 mm	- - - -	15.0 17.0 19.0 21.0 25.0
CEJN-Lock Connection For special non-clamping hose		1/4" 3/8" 1/2"	-	19.0 23.0 26.0
R/Rc Thread Connection Conical Pipe Thread Connection According to ISO 7/1 (Other common descriptions are BSPT, Kr)  Male: ie. R 1/4"	<u>L</u>	<b>Male Thread</b> R 1/8" R 1/4" R 3/8" R 1/2" R 3/4"	10.2 13.6 17.2 21.7 27.1	7.4 11.0 11.0 15.0 16.3
Female: ie. Rp 1/4" (parallel) ie. Rc 1/4" (taper)	Ø	Female Thread Rc 1/8" Rc 1/4" Rc 3/8" Rc 1/2" Rc 3/4"	8.3 11.0 14.5 18.0 23.5	7.4 11.0 11.4 15.0 16.3
G Thread Connection Cylindrical Pipe Thread Connection According to ISO 228/1 (Other common descriptions are BSP, R)  Male: ie. G 1/4"	Ø	Male Thread G 1/8" G 1/4" G 3/8" G 1/2" G 3/4"	9.6 13.0 16.5 20.8 26.3	8.0 10.0 10.0 12.0 12.0
Female (ISO 1179): ie. G 1/4"	[ ] 	Female Thread G 1/8" G 1/4" G 3/8" G 1/2" G 3/4"	8.75 11.8 15.25 19.0 24.5	7.4 11.0 11.4 15.0 16.3
NPT Thread Connection National Pipe Thread American standard according to ANSI/ASME B 1.20.1  Male and female: ie. 1/4" NPT	Ø	Male Thread NPT 1/8" NPT 1/4" NPT 3/8" NPT 1/2" NPT 3/4"	10.5 14.0 17.5 21.8 27.1	6.7 10.2 10.4 13.6 13.9
	L 	Female Thread NPT 1/8" NPT 1/4" NPT 3/8" NPT 1/2" NPT 3/4"	8.5 11.0 14.5 18.0 23.0	6.9 10.0 10.3 13.6 14.1



# **Quick Reference Guide**

CEJN SERIES	141	220	300	303	310	315	320	342	408	410	430	442	550
CEJN Original Profile	•	•					•	•		•		•	
Standards													
ARO 210 Standard			•										
A-A 59439* / ISO 6150 B					•						•		•
Eurostandard						•			•				
Asian Standard						•							
Body Size	N/A	1/8"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	1/2"
Flow Diameter (mm)	2.5	5.0	5.5	6.5	5.3	7.5	7.6	7.4	9.5	10.4	9.5	10.4	11.0
Max Working Pressure (bar)**	10	35	16	16	16	16	16	35	16	16	16	35	16
Air Flow (I/min)** ***	80	580	1050	1450	925	1950	2100	1950	3450	3900	2350	3950	3750
Suitable for Vacuum Service	•	•		•					•				
Pre-applied Thread Sealant			•	•	•	•	•	•					
Multi-Link Version			•		•		•						
Integrated Soft-Line Version			•		•		•						
Safety Versions													
Vented safety coupling (ISO 4414)			•		•		•			•			
Anti-hose whip nipple			•	•			•	•	•	•			
Safety lock													
Connections													
Stream-Line connection			•	•									
CEJN-Lock connection													
Hose connection													
			•										
Male thread			•		•								
Female thread	•	•	•	•	•	•	•	•	•	•	•	•	•
Operation		_	_	_			_	_	_	_	_		_
One-hand connection	•	•	•	•	•	•	•	•	•	•	•	•	•
One-hand disconnection	•	•	•	•	•	•	•		•	•	•		•
Two-hand disconnection								•				•	
Temperature Ranges**													
-30°C to +100°C	•	•						•				•	
-20°C to +100°C			•	•	•	•	•		•	•	•		•
Coupling Materials													
Brass	•	•											
Steel/Brass			•	•	•	•	•	•	•	•	•	•	•
Nickel plating		•											
Chrome plating	•												
Zinc plating			•	•	•	•	•	•	•	•	•	•	•
Nipple Materials													
Steel		•	•	•	•	•	•	•	•	•	•	•	•
Brass	•												
Zinc plating		•	•	•	•	•	•	•	•	•	•	•	•
Chrome plating	•												
Seal Material													
NBR (Nitrile rubber)	•	•	•	•	•	•	•	•	•	•	•	•	•
Tool Flow Requirements													
< 100 I/min													
< 300 l/min													
< 600 l/min													
< 900 l/min													
< 1200 l/min													
< 1500 l/min													
< 1800 l/min													
< 2100 l/min													
< 2400 l/min													
< 2700 l/min													
< 3000 I/min													
< 3300 I/min													J
< 3600 I/min													

<sup>\*</sup>Former U.S. Standard MIL C 4109 1/4". \*\*Technical data for vented safety version may differ from standard version. \*\*\* With inlet pressure 6 bar at ∆p 0.5).



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