Pneumatic Catalogue 2012

Quick Coupling Systems for Pneumatic and Fluid Handling

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker

ENGINEERING YOUR SUCCESS.

Structure of Part Numbers

Hose Connection
TF = Hose Barb
TH = Hose Barb 45°
TR = Hose Barb 90°
TZ = Straight shaft parallel
TP = for Parker plug-in Hose
TS = Panel Mount with Hose Barb
TD = Hose Barb DIN EN 560
TE = Front Panel Installation, Hose Barb Panel Mount

Plastic Tube Connection
KO = with Hose Nut, without spring guard
KR = 90° KO - connection
KS = Panel mounted, without spring guard
KK = with spring guard
KE = Front panel installation with KO - connection
KP = Plastic tube connection (hard plastic hoses, only for RECTUCHEM)

Other Connections
KL = Insert for plug-in connection
PV = Fixing connection for PVC hoses
DS = Double plug-in nippel
PH = Parker 45°

Male Thread
AW = Whitworth pipe thread ISO 228 parallel
AM = Metric thread DIN 13
AK = Whitworth pipe thread DIN 2999 tapered
AN = NPT thread ANSI B 1.20.1 tapered
AD = Metric thread DIN 2353 (ISO 8434-1)
WP = Whitworth pipe thread ISO 228 Serto Plan
MP = Metric thread DIN 13 Serto Plan
SW = Panel mount Whitworth pipe thread ISO 228 Serto Plan
SM = Panel mount metric thread DIN 13 Serto Plan
AL = Whitworth pipe thread ISO 228 parallel left
AR = 90° Whitworth pipe thread DIN 2999 tapered
AE = Front Panel Installation with Whitworth pipe thread ISO 228 parallel
AJ = UNF thread (JIC) with 37° cone by SAE J 514

Female Thread
IW = Whitworth pipe thread ISO 228 parallel
IM = Metric thread DIN 13
IK = Whitworth pipe thread ISO 7 corresponding DIN 2999 tapered
IN = NPSF-thread ANSI B 1.20.3
IT = NPT thread tapered ANSI B 1.20.1
IF = UNF-thread
IL = Whitworth pipe thread ISO 228 parallel left

Adding 1
S = Marking for special version
0 = RECTUKey round
3 = RECTUKey triangle
6 = RECTUKey hexagon
8 = RECTUKey octagon

21	KA	AW	13	M	P	X	X	X

Series No:

Couplings
KA = Single Shut-Off
KB = Double Shut-Off
KF = Straight-Through
KL = Dry-Break (double shut-off)
KE = Self-Venting System
KS = Safety (single shut-off)
KD = Safety (double shut-off)
KR = Safety (straight through)

Plugs
SF = Straight-Through
SB = Double Shut-Off
SL = Dry-Break (double shut-off)
SS = Safety (straight-through)
SD = Safety (double shut-off)
SR = Recoil Eliminator

Metric Thread
05 = M 5
10 = M 10 x 1
12 = M 12 x 1,5
14 = M 14 x 1,5
16 = M 16 x 1,5
18 = M 18 x 1,5

Thread Sizes
10 = 1/8”
13 = 1/4”
17 = 3/8”
21 = 1/2”
26 = 3/4”
33 = 1”
38 = 1 1/8”
42 = 1 1/4”
48 = 1 1/2”
54 = 1 3/4”
60 = 2”

Hose Connection
03 = for 3 mm LW (1/8”)
04 = for 4 mm LW (3/16”)
06 = for 5 mm LW (1/4”)
08 = for 8 mm LW (5/16”)
09 = for 9 mm LW (3/8”)
13 = for 13 mm LW (1/2”)
19 = for 19 mm LW (3/4”)
25 = for 25 mm LW (1”)

Plastic Hose
04 = for 3 x 4 mm
05 = for 3 x 5 mm
36 = for 3 x 6,3 mm
06 = for 4 x 6 mm
46 = for 4 x 6,3 mm
08 = for 6 x 8 mm
10 = for 8 x 10 mm
12 = for 9 x 12 mm
16 = for 13 x 16 mm

Material
M = Brass CuZn39Pb3 2.0401 (except sleeve)
B = Brass CuZn39Pb3 2.0401 (completely)
S = Steel 9SMnPb28K 1.0718
R = Stainless Steel AISI 303
H = Stainless Steel AISI 316 LMO
E = Stainless Steel AISI 316 L
K = Thermoplastics
D = POM (Delrin)
F = PVDF

Seal
X = without seal
P = Perbunan NBR
V = FKM/FPM
E = Ethylene-Propylene EPDM
S = Silicone
K = FFKM

Surface
X = without surface treatment
N = Nickel plated
C = Chrome plated
Z = Zinc plated
D = Durnicoated (chemic. zinc plated)
B = Browning (steel black)
G = Zinc plated and yellow chromated
P = Passivated
P = Pressure springs made of PEEK (only for RECTUCHEM+)
F = chemically nickel plated and chrome plated (Flashchrome)
S = zinc plated and black chromated

Adding 2 Color coding for plastic
B = Blue
G = Green
R = Red
Y = Yellow

Key to Symbols in Application Area

MachineryConstruction
Electrical Engineering
Medical Technology
Mobile Hydraulics
Food Technology
Aeronautics
Safety Technology
Trade
Chemical Technology
Automotive

Important Notes:

- Please note that the technical data, specifications and drawings in the catalogue are not binding. This information is subject to change without notice in the interest of improvement.
- We reserve the right to make technical modifications for the purposes of improvement.
- April 2012: With the actual catalogue the older versions are no longer valid.
- The interchangeability is guaranteed under the assumption that the manufacturer of the relevant product has not changed any functional part in the meantime.
- You will find important safety instructions on pages 12 and 13.

ARE YOU HOPING TO FIND WITHOUT LOOKING? THEN WE HAVE JUST THE THING FOR YOU!

Low Pressure Systems

This chapter provides information on all coupling systems and accessory parts for use with pressures of up to 35 bar. These are primarily Rectus brand products – for use in the area of liquid and gaseous media.

Here you will also find our wide range of hoses for various applications.

YOU CAN NEVER HAVE TOO MANY GOOD CONNECTIONS.

Decades of experience in the construction and production of high quality coupling sys-tems for the widest variety of media for pneumatic and fluid handling – that is what our customers value about us.

With the internationally established Rectus and Tema product brands, you can be certain that the know-how of our engineers is always available and reliable.

RECTUS

For decades, Rectus quick connect couplings have been a name for the highest precision and reliability. The low pressure systems are used in many sectors, primarily for compressed air, but also for connections with liquid media.

THE RIGHT SOLUTION FOR EVERY SECTOR!

Whether under water, in aerospace, on the high seas, on the street, or in industry – our quick connect coupling systems are at home in many domains and represent the right solution in numerous technical applications.

The modular structure of our series allows you to benefit from a wide standard range, which includes a suitable system for most applications – just-in-time goes without saying.

YOU KNOW YOUR APPLICATIONS, WE KNOW
THE RIGHT COUPLING SYSTEM!

Industrial Sectors/ Application Areas	Straight Through KF	Single Shut-Off KA	Double Shut-Off KB	Dry-Break KL	Thermoplastic Couplings POM/PVDF	Stainless Steel Couplings	Safety Couplings	FlatFace Couplings
Compressed Air	●	●	○	○	○	○	●	○
Air	●	●	○	○	○	○	○	○
Breathing Air	○	●	●	○	○	○	●	○
Gases	○	●	●	●	○	○	●	○
Liquid Gases	○	○	●	●	○	○	●	●
Water*	●	●	●	●	○	○	○	○
Liquid Media	○	●	●	●	●	○	●	●
Aggressive Media	○	○	●	●	●	●	●	●
Chemicals	○	○	●	●	●	●	●	●
Machinery/Systems Manufacturing	○	●	○	●	○	○	●	○
Welding	○	●	○	○	○	○	○	○
Molding	●	●	●	○	○	○	○	○
Automation	○	●	○	○	○	○	○	○
Robotics	○	●	●	●	○	○	○	○
Textile Industry	○	●	○	○	○	○	○	○
Medical Equipment	●	●	●	●	●	●	●	●
Food and Beverage Industry	○	○	○	○	●	●	○	○
Chemical Industry	○	○	●	●	●	●	●	●
Pharmaceutical Industry	○	○	●	●	●	●	●	●
Laboratory	○	●	●	●	●	●	●	●
Analysis Technology	○	○	●	●	●	●	○	○
Steel Manufacturing	○	●	○	○	○	○	●	○
Rafi neries	○	○	●	●	○	●	●	●
Paper Production	○	●	●	○	○	●	○	●
Rescue and Safety	○	●	●	●	○	●	●	○
Aerospace Technology	○	○	○	○	○	●	●	○
Shipyards	○	●	●	○	○	●	○	○
Semiconductor Technology	○	○	●	●	●	●	○	●
Laser Technology	○	○	●	●	○	●	○	○
Nuclear Power	○	○	●	○	○	●	●	○

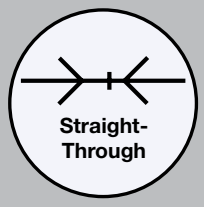
* only systems with valve and sleeve made of brass

COUPLING QUICKLY AND SAFELY WITH ONE HAND!

The development of the single-hand quick connect coupling made a decisive contribution to improving work safety and functionality. In order to create a connection, the plug is simply pushed into the coupling. This causes the sleeve to spring forward and lock automatically. When uncoupling, the sleeve is pushed back with one hand and the disconnection is easy. The following valve designs are available for selection for different applications:

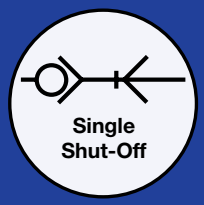
Straight-Through

These coupling systems work with no shut-off valve, which means they can achieve the greatest possible flow. Further, turbulence which can occur with integrated valves is completely eradicated. Straight-through couplings are ideally suited to liquid media – e.g. water applications. Before unlocking, the flow must be stopped.



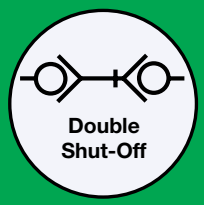
Single Shut-Off

On our single shut-off systems, the plug is designed straight-through – although the coupling shuts off immediately when the connection is broken. Appearance of on-fl ow media in the line is effectively prevented. An ideal solution for operating compressed air tools.



Double Shut-Off

On our double shut-off systems, after disconnection, the flow stops both in the coupling and in the plug. The medium remains in the hose in both connecting lines, the pressure is held constant and not released.



Dry-Break Design

Our leak-free coupling systems have valves on the coupling and plug that build up no dead-space volume. Thus, when the connection is broken, no drops of the medium can escape. This variant is especially suitable for transferring aggressive media or in sensitive environments such as cleanrooms.

WE SET STANDARDS IN QUALITY AND SAFETY.

Around the world highly qualified specialists are working to secure and optimise the quality of our products. Nothing will deter them from the high demands which they set themselves – as all employees know, we can only retain our top international position by constant top performance. With the help of controlled manufacturing processes and up to the minute precision technology, it is the person - as a creative and experienced technical, sales man and customer adviser – who is responsible for this. All stages of production are subject to proven and comprehensive quality management. Certificates and test reports from the most important independent institutes confirm our excellent functionality and production quality. For our customers, this means: greater safety and reliability – even in extreme conditions.

DIN EN ISO 9001:2000
Reg.Nr. 1070
Qualitätsmanagementsystem

BIA

GASWÄRME-INSTITUT E.V. ESSEN
GWI

FROM STANDARD PRODUCT TO BESPOKE SYSTEM SOLUTION.

Our standard catalogue range offers the right coupling for most application areas. Many of these standard items come from previous special solutions which we later integrated into serial production. Developing special solutions for particular tasks is one of our strengths – and an ad-vantage which you can use at any time. Our competent specialists will be pleased to visit you to establish your specific requirements and wishes. We will then recommend adaptation of one of our standard products, or new design of a bespoke individual solution for you. At the end, we will provide you with a functional system that is exactly suited to your requirements – both technologically and economically. Get in touch – we will be pleased to advise you specifically.

From Mini to Maxi

Our innovations are impressive: from the smallest quick connect coupling in the world to the large ISO-B-Couplingsysteme in nominal diameter 20 mm.

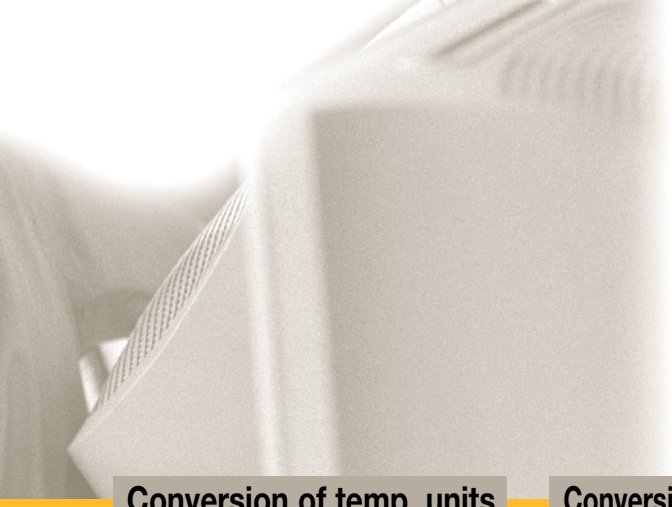
SEALING AND ACCURACY.

A coupling system is always as good as its sealing components. That is why we only use top quality, proven standards, which have been tried and tested time and again. For special applications, please also ask our specialist advisers, as an important criterium for functionality of an O-ring is the type of medium in relation to its temperature. In accordance with these parameters, we can recommend the right type of seal and will be pleased to carry out specific tests with you.

The most important sealants

Sealing-Material	Brand	Temperature-Range	Features
NBR Acrylonitrile-Butadiene Rubber	Buna N	-20°C - +100°C	Can be used for compressed air. Resistant to heat and many liquids, e.g. mineral oils, fuel (no environmental diesel), water glycol and grease.
EPDM Ethylene Propylene Diene Rubber		-50°C - +150°C	Heat resistant and specially suited to hot water and steam. Good resistance to brake oils, glycol and fire-resistant oils. Not suitable for mineral-based oils and petrol.
FKM Fluorocarbon Rubber	Viton® [1]	-15°C - +200°C	Very high resistance to heat and liquids inc. petrol, oils, environmental diesel, grease and aromatic oils.
FFKM Perfluoro Rubber	Kalrez® [2]	-25°C - +240°C	Universal chemical resistance, good for aggressive media, high thermal resistance. Lowest source values for all media.

[1] Viton® is a registered trademark of DuPont Dow Elastomers.
[2] Kalrez® is a registered trademark of DuPont Dow Elastomers.



WITH US, YOU CAN WORK IN ANY UNITS.

Conversion of temp. units

°F → °C		°C → °F	
- 40	- 40,0	-40	-40
-35	-37,2	-35	-31
-30	-34,4	-30	-22
-25	-31,7	-25	-13
-20	-28,9	-20	-4
-15	-26,1	-17,8	0
-10	-23,3	-15	+5
-5	-20,6	-10	+14
0	-17,8	-5	+23
+5	-15,01	0	+32
+10	-12,2	+5	+41
+15	-9,4	+10	+50
+20	-6,7	+15	+59
+25	-3,9	+20	+68
+30	-1,1	+25	+77
+32	0,0	+30	+86
+35	+1,7	+35	+95
+40	+4,4	+40	+104
+45	+7,2	+45	+113
+50	+10,0	+50	+122
+55	+12,8	+55	+131
+60	+15,6	+60	+140
+65	+18,3	+65	+149
+70	+21,1	+70	+158
+75	+23,9	+75	+167
+80	+26,7	+80	+176
+85	+29,4	+85	+185
+90	+32,2	+90	+194
+95	+35,0	+95	+203
+100	+37,8	+100	+212
+105	+40,6	+105	+221
+110	+43,3	+110	+230
+115	+46,1	+115	+239
+120	+48,9	+120	+248
+125	+51,7	+125	+257
+130	+54,4	+130	+266
+135	+57,2	+135	+275
+140	+60,0	+140	+284
+145	+62,8	+145	+293
+150	+65,6	+150	+302
+155	+68,3	+155	+311
+160	+71,1	+160	+320
+165	+73,9	+165	+329
+170	+76,7	+170	+338
+175	+79,4	+175	+347
+180	+82,2	+180	+356
+185	+85,0	+185	+365
+190	+87,8	+190	+374
+195	+90,6	+195	+383
+200	+93,3	+200	+392
+205	+96,1	+205	+401
+210	+98,9	+210	+410
+215	+101,7	+215	+419
+220	+104,4	+220	+428
+225	+107,2	+225	+437
+230	+110,0	+230	+446
+235	+112,8	+235	+455
+240	+115,6	+240	+464
+245	+118,3	+245	+473
+250	+121,1	+250	+482

Conversion of flow rate units

l/min →	Cfm →	m³/h
100	4	6
200	7	12
300	11	18
400	14	24
600	21	36
800	28	48
1000	35	60
1200	42	72
1400	49	84
1600	57	96
1800	64	108
2000	71	120
2200	78	132
2400	85	144
2600	92	156
2800	99	168
3000	106	180
3300	117	198
3600	127	216
3900	138	234
4200	148	252
4500	159	270
4800	170	288
5100	180	306
5400	191	324
5700	201	342
6000	212	360
6300	222	378
6600	233	396
6900	244	414
7200	254	432
7500	265	450
7800	275	468
8000	283	480

Thread dimensions in mm

Pipe thread according to ISO 228

Nominal thread size	Outer-Ø d (mm)	Core-Ø d_1 (mm)
1/16	7,723	6,561
1/8	9,728	8,566
1/4	13,157	11,445
3/8	16,662	14,950
1/2	20,955	18,631
5/8	22,911	20,587
3/4	26,441	24,117
7/8	30,201	27,877
1	33,249	30,291
1 1/8	37,897	34,939
1 1/4	41,910	38,952
1 1/2	47,803	44,845
1 3/4	53,746	50,788
2	59,614	56,656
2 1/4	65,710	62,752
2 1/2	75,184	72,226
2 3/4	81,534	78,576

Conversion of pressure units

bar	PSI	MPa	PSI	bar	MPa
1	14,5	0,1	15	1,0	0,10
3	43,5	0,3	50	3,5	0,35
6	87,0	0,6	75	5,2	0,52
8	116,0	0,8	100	6,9	0,69
10	145,0	1,0	125	8,6	0,86
12	174,0	1,2	150	10,3	1,03
15	217,5	1,5	175	12,1	1,21
20	290,0	2,0	200	13,8	1,38
25	363,0	2,5	250	17,2	1,72
30	435,0	3,0	300	20,7	2,07
35	508,0	3,5	400	27,6	2,76
50	725,0	5,0	500	34,5	3,45
70	1015,0	7,0	750	51,7	5,17
100	1450,0	10,0	1000	69,0	6,90
150	2175,0	15,0	1500	103,4	10,34
200	2900,0	20,0	2000	137,9	13,79
250	3625,0	25,0	3000	206,8	20,68

Vacuum units

Vacuum (%)	Absolute press. (mbar)	Neg. press. (mbar)	Neg. press. (mm Hg)
0	1000	0	0
10	900	-100	-75
13,3	867	-133	-100
20	800	-200	-150
26,7	733	-267	-200
30	700	-300	-225
40	600	-400	-300
50	500	-500	-375
53,3	467	-533	-400
60	400	-600	-450
66,7	333	-667	-500
70	300	-700	-525
80	200	-800	-600
90	100	-900	-675
92	80	-920	-690
100	0	-1000	-760

SAFETY GUIDE FOR SELECTING AND USING QUICK CONNECT COUPLINGS AND RELATED ACCESSORIES

DANGER: failure or improper selection or improper use of quick connect couplings or related accessories can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of quick connect couplings or related accessories include but are not limited to:

- Couplings or parts thrown off at high speed
- High velocity fluid discharge
- Contact with suddenly moving or falling objects that are to be held in position or moved by the conveyed fluid
- Dangerously whipping hose
- Explosion or burning of the conveyed fluid
- Contact with conveyed fluids that may be hot, cold, toxic, or otherwise injurious
- Sparking or explosion while paint or flammable liquid spraying

Before selecting or using any Parker RectusTema quick connect couplings or related accessories, it is important that you read and follow the following instructions.

1.0 GENERAL INSTRUCTIONS

1.1 Scope: this catalogue provides instructions for selecting and using (including installing connecting, disconnecting, and maintaining) quick connect couplings and related accessories (including caps, plugs, hoses, blow guns). This safety instruction is a supplement to and is to be used with the specific Parker publications for the specific quick connect couplings and related accessories that are being considered for use.

1.2 Fail-Safe: quick connect couplings or the hose they are attached to can fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of the quick connect coupling or hose will not endanger persons or property.

1.3 Distribution: provide a copy of this safety guide to each person who is responsible for selecting or using quick connect coupling products. Do not select or use quick connect couplings without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.

1.4 User responsibility: due to the wide variety of operating conditions and uses for quick connect couplings, Parker RectusTema and its distributors do not represent or warrant that any particular coupling system is suitable for any specific end use system. This safety instructions do not analyse all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:

- Making the final selection of the quick connect couplings.
- Assuring that the user's requirements are met and that the use presents no health or safety hazards.
- Providing all appropriate health and safety warnings on the equipment on which the quick connect couplings are used.

1.5 Additional questions: call the appropriate Parker customer service department if you have any questions or require any additional information. For the telephone numbers of the appropriate customer service department, see the Parker publication for the product being considered or used.

2.0 SELECTION INSTRUCTIONS

2.1 Pressure: quick connect couplings selection must be made so that the published rated pressure of the coupling is equal to or greater than the maximum system pressure. Pressure surges in the system higher than the rated pressure of the coupling will shorten the quick connect coupling's life. Do not confuse burst pressure or other pressure values with rated pressure and do not use burst pressure or other pressure values for this purpose.

2.2 Fluid compatibility: quick connect couplings selection must assure compatibility of the body and seal materials with the fluid media used. See the fluid compatibility chart.

2.3 Temperature: be certain that fluid and ambient temperatures, both steady and transient, do not exceed the limitations of the quick connect couplings. Use caution and hand protection when connecting or disconnecting quick connect couplings that are heated or cooled by the media they are conducting or by their environment.

2.4 Size: transmission or power by means of pressurised liquid varies with pressure and rate of flow. The size of the quick connect couplings and other components of the system must be adequate to keep pressure losses to a minimum and avoid damage due to heat generation or excessive fluid velocity.

2.5 Pressurised connection or disconnection: if connecting or disconnecting under pressure is a requirement, use only quick connect couplings designed for that purpose. The rated operating pressure of a quick connect coupling may not be the pressure at which it may be safely connected or disconnected.

2.6 Environment: care must be taken to ensure that quick connect couplings are either compatible with or protected from the environment (that is, surrounding conditions) to which they are exposed. Environmental conditions including but not limited to ultraviolet radiation, ozone, moisture, water, salt water, chemicals, and air pollutants can cause degradation and premature failure.

2.7 Locking means: ball locking quick connect couplings can unintentionally disconnect if they are dragged over obstructions on the end of a hose or if the sleeve is bumped or moved enough to cause disconnection. Sleeves designed with flanges to provide better gripping for oily or gloved hands are especially susceptible to accidental disconnection and should not be used where these conditions exist. Sleeve lock or union (threaded) sleeve designs should be considered where there is a potential for accidental uncoupling.
2.8 Mechanical loads: external forces can significantly reduce quick connect couplings' life or cause failure. Mechanical loads which must be considered include excessive tensile or side loads and vibration. Unusual applications may require special testing prior to quick connect couplings selection.
2.9 Specifications and standards: when selecting quick connect couplings, government, industry and Parker specifications must be reviewed and followed as applicable.
2.10 Vacuum: not all quick connect couplings are suitable or recommended for vacuum service. Quick connect couplings used for vacuum applications must be selected to ensure that the quick connect couplings will withstand the vacuum and pressure of the system.
2.11 Fire resistant fluids: some fire resistant fluids require seals other than the standard NBR (nitrile) used in many coupling systems.
2.12 Radiant heat: quick connect couplings can be heated to destruction or loss of sealing without contact by such nearby items as hot manifolds or molten metal. The same heat source may then initiate a fire. This can occur despite the presence of cool air around the quick connect couplings.
2.13 Welding and brazing: heating of plated parts, including quick connect couplings and port adapters, above 450 °F (232 °C) such as during welding, brazing, or soldering may emit deadly gases and may cause coupling seal damage.

3.0 INSTALLATION INSTRUCTIONS
3.1 Pre-installation inspection: before installing a quick connect coupling, visually inspect it and check for correct style, body material, seal material, and catalogue number. Before final installation, coupling halves should be connected and disconnected with a sample of the mating half with which they will be used.
3.2 Quick connect coupling halves from other manufacturers: if a quick connect coupling assembly is made up of one Parker RectusTema half and one half from another manufacturer, the lowest pressure rating of the two halves should not be exceeded.
3.3 Fitting installation: use a thread sealant, when assembling taper pipe thread joints in quick connect couplings. Be sure the sealant is compatible with the system fluid or gas. To avoid system contamination, use a liquid or paste type sealant rather than a tape style. Use the flats provided to hold the quick connect coupling when installing fittings. Do not use pipe wrenches or a vice on other parts of the coupling to hold it when installing or a removing fittings as damage or loosening of threaded joints in the coupling assembly could result. Do not apply excessive torque to taper pipe threads because cracking or splitting of the female component can result.
3.4 Caps and plugs: use dust caps and plugs when quick connect couplings are not coupled to exclude dirt and contamination and to protect critical surfaces from damage.
3.5 Coupling location: locate quick connect couplings where they can be reached for connection or disconnection without exposing the operator to slipping, falling, getting sprayed or coming in contact with hot or moving parts.
3.6 Hose whips: use a hose whip (a short length of hose between the tool and the coupling half) instead of rigidly mounting a coupling half on hand tools or other devices. This reduces the potential for coupling damage if the tool is dropped and provides some isolation from mechanical vibration which could cause uncoupling.

4.0 MAINTENANCE INSTRUCTIONS
4.1 Even with proper selection and installation, quick connect coupling life may be significantly reduced without a continuing maintenance program. Frequency should be determined by the severity of the application and risk potential. A maintenance program must be established and followed by the user and must include the following as a minimum:
4.2 Visual inspection of quick connect couplings: any of the following conditions require immediate shut down and replacement of the quick connect coupling:
• Cracked, damaged, or corroded quick connect couplings parts.
• Leaks at the fitting, valve or mating seal.
• Broken coupling mounting hardware, especially breakaway clamps.
4.3 Visual inspection all other:
• Leaking seals or port connections.
• Excess dirt build-up on the coupling locking means or on the interface area of either coupling half.
• Defective clamps, guards, and shields.
• System fluid level, fluid type and any entrapment.
4.4 Functional test: operate the system at maximum operating pressure and check for possible malfunctions and freedom from leaks. Personnel must avoid potential hazardous areas while testing and using the system.
4.5 Replacement intervals: specific replacement intervals must be considered based on previous service life, government or industry recommendations, or when failures could result in unacceptable downtime, damage or injury risk. See instruction 1.2 above.

LOW PRESSURE SYSTEMS.
PROVEN, TOP QUALITY RECTUS SOLUTIONS.

Depending on the design, our connecting elements for the low pressure range up to 35 bar are suitable for gaseous (compressed air) or liquid media (water, chemistry). In our standard range, you will find solutions for the widest variety of applications.

e. g. Rectus Series 21KA

This successful small-dimensioned coupling is available as a single-hand quick connect system in numerous design and material qualities.

Nominal Diameter/Flow

The nominal diameter corresponds to the free internal diameter of the coupling or plug. Normally, the internal diameter of the front plug area is measured. Due to the integrated valve, plugs on double shut-off couplings have a smaller internal diameter than the coupling, thus the effective nominal diameter is smaller. The nominal diameter gives a rough idea of size for flow in a coupling-plug combination. The real flow is always dependent on the nominal diameter, in connection with the flowpreferential shape of a system.

Material Properties

Brass:
Corrosion resistant for compressed air and water applications, medium strength, anti-magnetic, high resistance to organic liquids, good surface quality, exemplary recyclability.

Steel:
High surface hardness, curable material for high loads, magnetic.

Stainless steel AISI 303 (V2A):
Corrosion resistant, good strength, only slightly magnetic.

Stainless steel AISI 316 L (V4A):
Highly corrosion resistant, good strength, only slightly magnetic.

POM thermoplastics:
Good strength and resistance for standard applications.

PVDF thermoplastics:
Medium strength with good general resistance. Especially good temperature and UV resistance, easy to sterilise (autoclave).

PVDF+ thermoplastics:
The springs in these PVDF couplings are made of the material PEEK. The mechanical properties are significantly improved, the size of the springs can be reduced. Pressure range from 1 bar.

ALL OUR PERFORMANCE CAPACITY AT A GLANCE.

Using this flow quantity diagram, find the right Rectus coupling series for your application – and at a glance! At the same time, we demonstrate the profile-specific compatibility/interchangeability with other Rectus products and foreign makes.

- Single Shut-Off
- Double Shut-Off
- Dry-Break Version

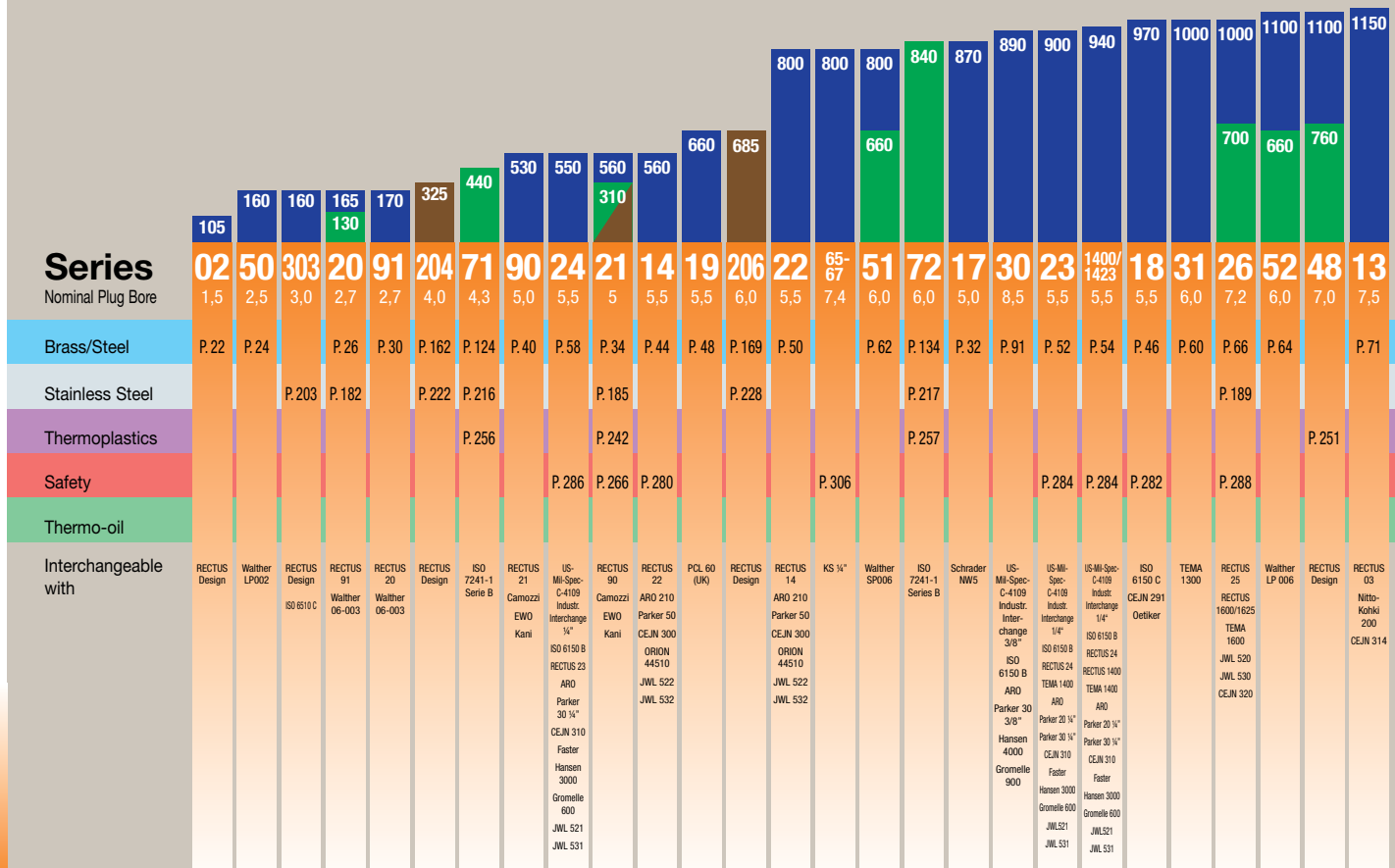
Flow quantity – air
Litres/minute*

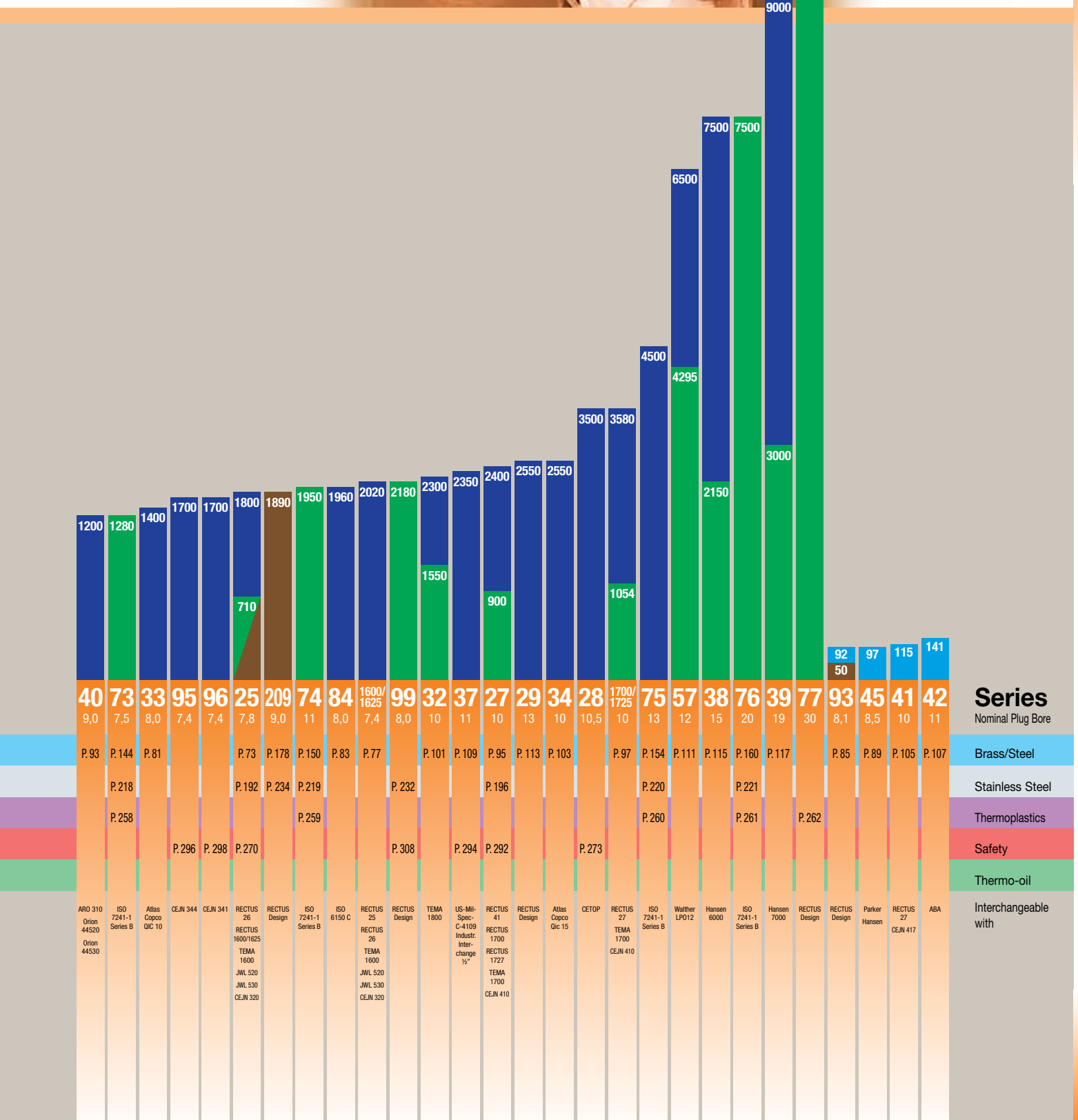
*(Measurement data generated in accordance with ISO 6358; CCTOP RP50P at input pressure 6 bar, pressure drop 0.5 bar)

- Thermo-oil
- Mold Connections/Straight-Through

Flow quantity – oil/water
Litres/minute*

*(Measurement data generated in accordance with ISO 7241/2:2000, pressure drop 0.5 bar)




1200
1280
1400
1700
1700
1800
710
1890
1950
1960
2020
2180
2300
1550
2350
2400
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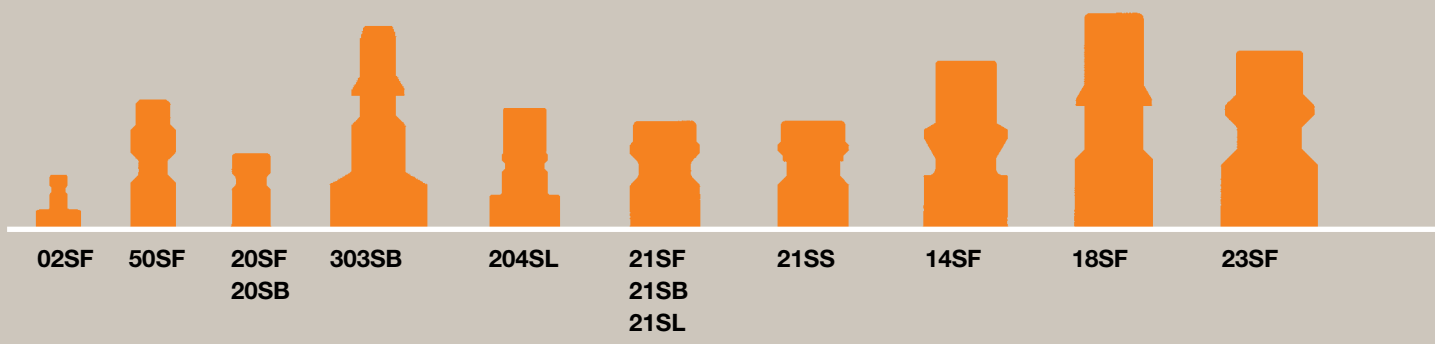
2550
2550
3500
3580
1054
4500
6500
4295
7500
2150
7500
9000
3000
17000
92
50
97
115
141
40 9,0 P. 93
73 7,5 P. 144 P. 218 P. 258
33 8,0 P. 81
95 7,4 P. 296
96 7,4 P. 298
25 7,8 P. 73 P. 192 P. 270
209 9,0 P. 178 P. 234
74 11 P. 150 P. 219 P. 259
84 8,0 P. 83
1600/1625 7,4 P. 77
99 8,0 P. 232 P. 308
32 10 P. 101
37 11 P. 109 P. 294
27 10 P. 95 P. 196 P. 292
29 13 P. 113
34 10 P. 103
28 10,5 P. 273
1700/1725 10 P. 97
75 13 P. 154 P. 220 P. 260
57 12 P. 111
38 15 P. 115
76 20 P. 160 P. 221 P. 261
39 19 P. 117
77 30 P. 262
93 8,1 P. 85
45 8,5 P. 89
41 10 P. 105
42 11 P. 107
ARO 310 Orion 44520 Orion 44530
ISO 7241-1 Series B
Atlas Copco QIC 10
CEJN 344
CEJN 341
RECTUS 26 RECTUS 1600/1625 TEMA 1600 JWL 520 JWL 530 CEJN 320
RECTUS Design
ISO 7241-1 Series B
ISO 6150 C
RECTUS 25 RECTUS 26 TEMA 1600 JWL 520 JWL 530 CEJN 320
RECTUS Design
TEMA 1800
US-Mil-Spec-C-4109 Industr. Interchange ½"
RECTUS 41 RECTUS 1700 RECTUS 1727 TEMA 1700 CEJN 410
RECTUS Design
Atlas Copco Qic 15
CETOP
RECTUS 27 TEMA 1700 CEJN 410
ISO 7241-1 Series B
Walther LP012
Hansen 6000
ISO 7241-1 Series B
Hansen 7000
RECTUS Design
RECTUS Design
Parker Hansen
RECTUS 27 CEJN 417
ABA
Series
Nominal Plug Bore
Brass/Steel
Stainless Steel
Thermoplastics
Safety
Thermo-oil
Interchangeable with

FROM PLUG TO BEST COUPLING SYSTEM.

Using the plug profiles shown below, the corresponding coupling systems are easy to determine.

RECTUS Plug Profiles



02SF | 50SF | 20SF 20SB | 303SB | 204SL | 21SF 21SB 21SL | 21SS | 14SF | 18SF | 23SF

13SF | 25SS | 33SF | 84SF | 30SF | 40SF | 27SF 27SB | 209SL

206SL
31SF
51SF
51SB
52SF
52SB
48SF
25SF
26SF
25SB
26SB
25SL
95SS
96SS

32SF
34SF
28SS
37SF
57SF
38SF
38SB
39SF
39SB
39SL

ABOVE ALL ELSE, OUR SYSTEMS OFFER YOU GREATER SAFETY.

Safety-Couplings

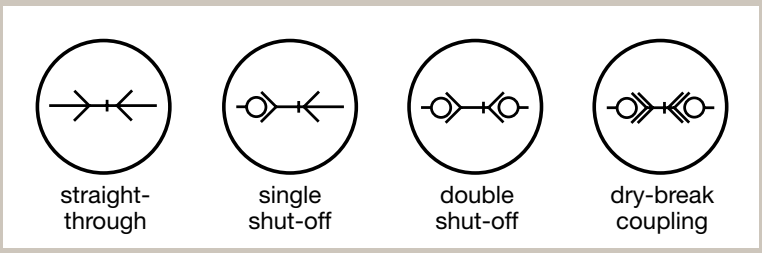
We consider that protecting people and material surfaces is an important issue. For use mainly in danger areas with high safety requirements, we have developed coupling systems with safety locks.

Self-Venting-Couplings

A patented single-hand self-venting technique with 2 separate locking systems makes it possible to vent automatically before uncoupling. Plastic sleeves prevent surface scratches. Application area exclusive to compressed air.

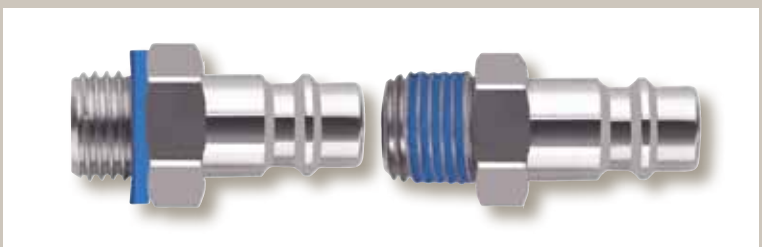
Valves

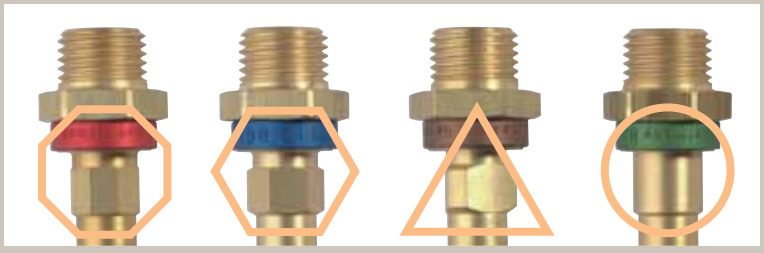
Depending on application area, our coupling systems are available with free flow, single or double shot-off, and in leak free design. A test of various valve types is recommended before ordering large quantities.



RectuLoc

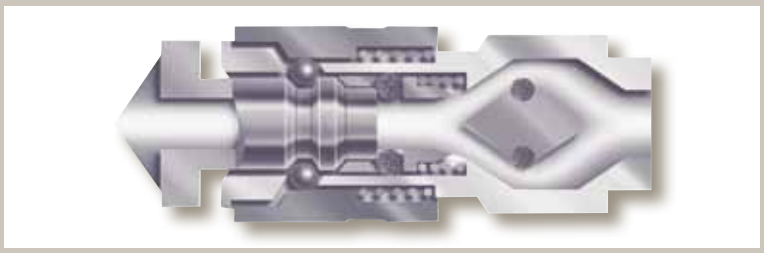
With the introduction of this innovative sealing system, we have finally eliminated laborious sealing with angel hair or plastic tape. Ball threads can be coated with RectuLoc on request, cylindrical threads can be supplied with a RectuLoc seal.





RectuKey

This coded coupling system completely eliminates confusion of different media. The structure and color of the couplings and plugs is differentiated – this makes wrong coupling impossible.



UltraFlo

The flow-favourable UltraFlo valve is a Rectus development, which increases the flow by up to 80% compared with conventional systems. Supply to compressed air tools is improved and energy costs are reduced. Can be supplied e.g. with the series 25 and 27 premium coupling systems.

Brass

Steel

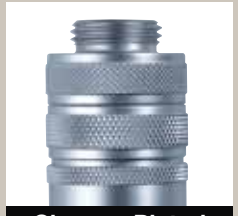
Stainless Steel

Thermoplastics

Materials

For almost all application cases, Rectus supplies the ideal combination of material and technology. Brass/steel products, various stainless steels, thermoplastics or mixed materials such as steel/plastic are all in the range and can be ordered specifically for the application.

Nickel-Plated



Chrome-Plated

Galvanised

Surfaces

Our coupling systems can be supplied with additional coating refinements, resistant to corrosion or aggressive media and specific to your requirements. Please ask your specialist adviser for special requirement profiles. We will test the appropriate solution for you.