Universal Push to Connect
The Parker Push-in System

Push-fitting instead of screw fitting in series production:
The only push-in system for steel tubes and hoses

Parker

ENGINEERING YOUR SUCCESS.

UPTC for 16 years a success story in many applications.

Customer testimonials:
We find the 24° cone standard interface to be an unbeatable advantage, for our globally used machines! When a replacement is needed, it is done quickly with DIN spare parts available worldwide. We benefit from this and so do our local customers.

The Double-Lock technology with the automatic Pressure-Lock is fascinating and has convinced us. After internal pre-tests in our earth drilling machines with vibrations, the system has shown what it can do and has been found to be good.

UPTC A system that has been successfully used in steering hydraulics for 16 years is a great proof of customer confidence for Parker. We say thank you for your trust.

Contents

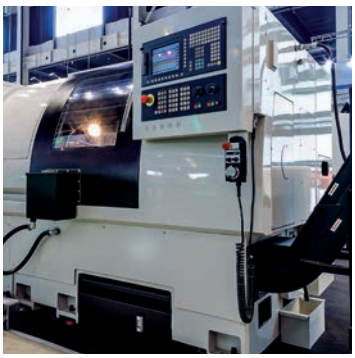
Universal Push to Connect (UPTC)

UPTC advantages

Parker Universal Push to Connect

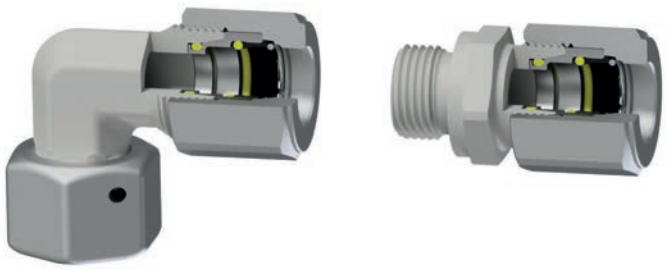
Parker Universal Push to Connect is a soft-sealing push-in system for steel hydraulic tubes and hydraulic hoses. UPTC is free of clearance and leakage. UPTC offers you unique advantages in your series production.

- Time savings with push-fitting instead of screw fitting (up to 50%)
- Simple push-in in confined spaces without tools
- Low push-in force in the assembly (approx. 60N at 15L)
- No special tools are required to loosen the connection
- Permanent visual control results of the connection
- Easily loosen, even with heavy contamination
- Can be combined with all 24° DIN EO screw fittings
- New product: Patented pressure locking system
- Push-in connection (pressure lock)
- New product: Patented wear prevention
- For many industries and many applications

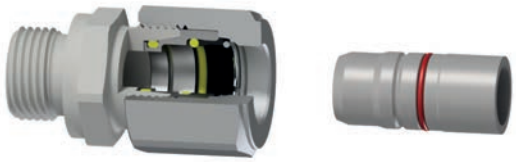


The UPTC system with components

Parker Universal Push to Connect

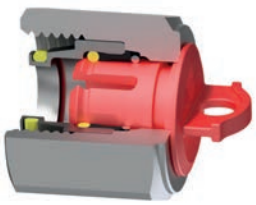


Any 24°fitting body with UPTC system nut for universal use



Any 24°screw-in connector with UPTC system nut for universal use

Hose fitting with UPTC system nut



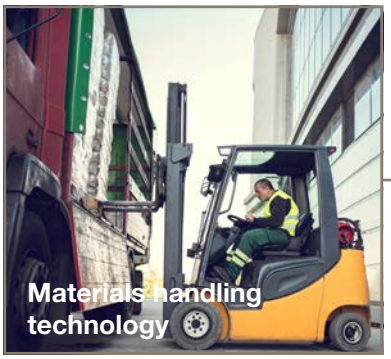
UPTC system nut

Any ISO 8434 hydraulic line can be easily converted into an UPC push-in system by using the system nut.

UPTC branch applications

Wherever a screw fitting would be difficult to handle

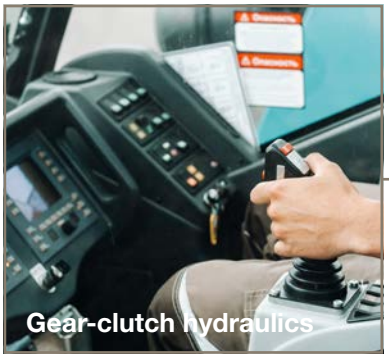
Universal Push to Connect is suitable for many applications.
For use in series production from small to large series.

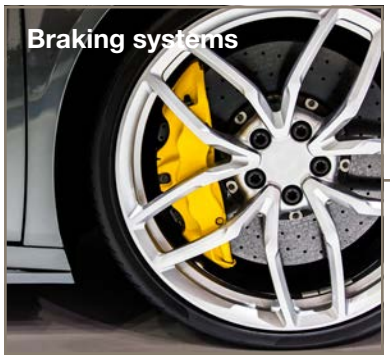


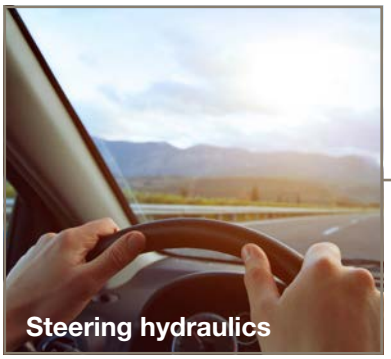
UPTC fields of applications

Wherever a screw fitting would be difficult to handle

Universal Push to Connect is suitable for many applications.
Application range from cooling to steering.







UPTC is a reliable system

Over 16 years experience in push-in systems

Idea and patent application

2006

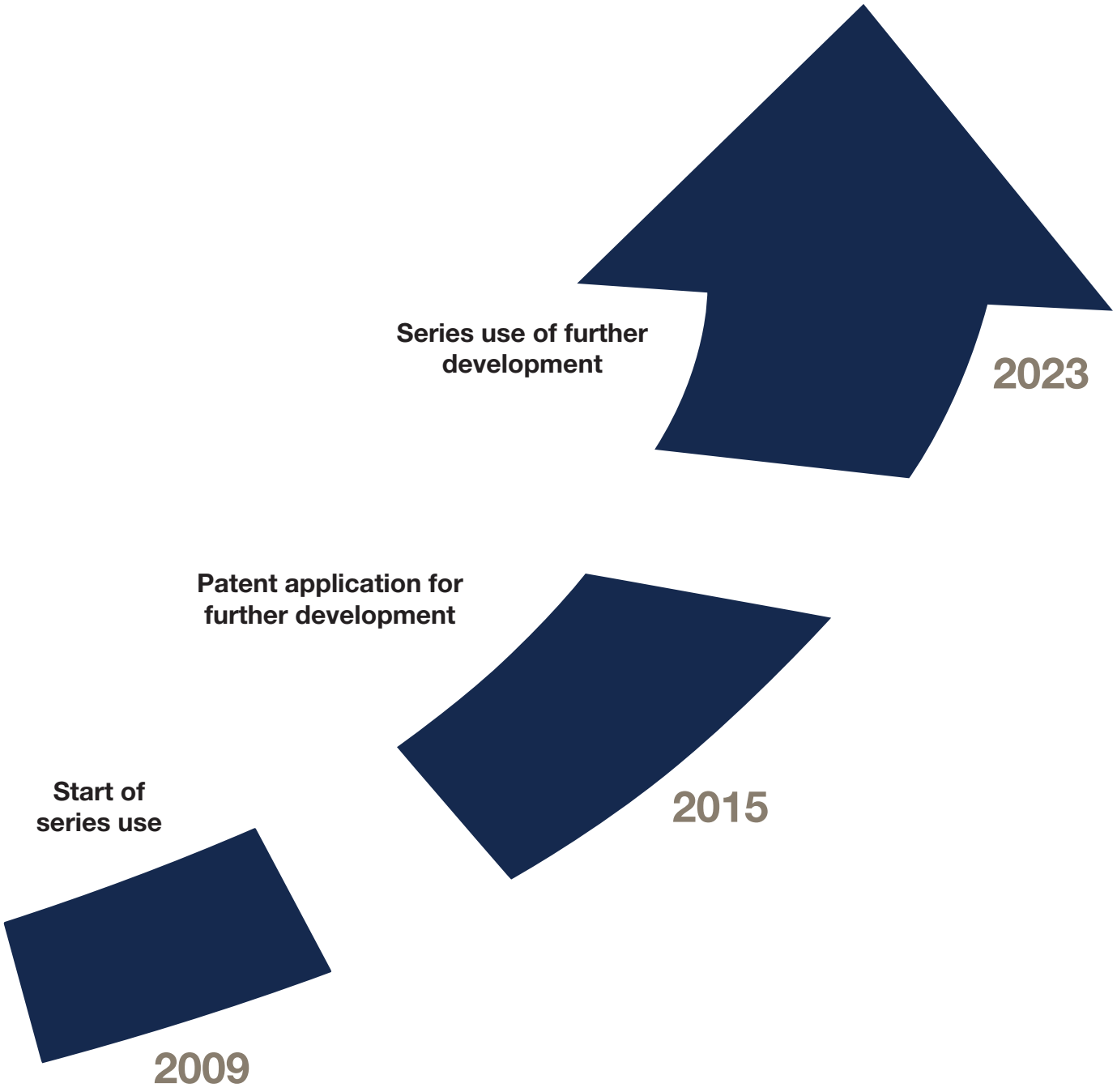
Field testing phase

2007

Development to series approval

2008

Reliable system

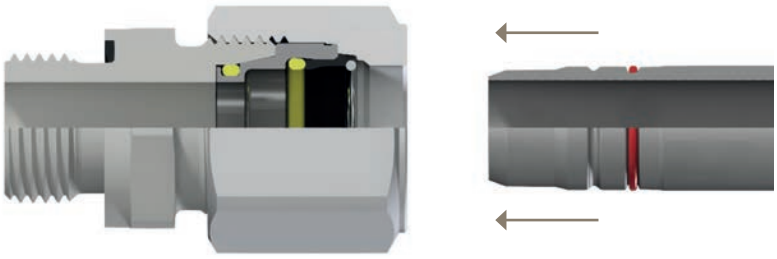


UPTC assembly states

Here‘s how easy it can be with Parker

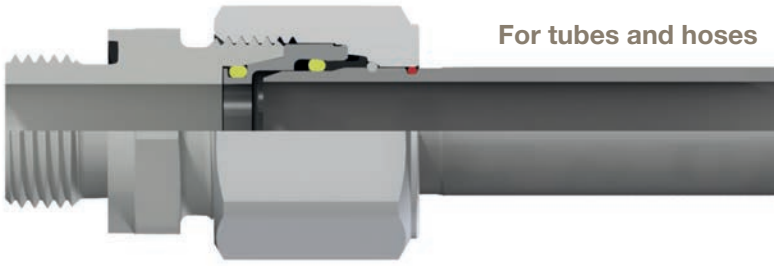
Assemble your connections by using UPTC: simple, fast and safe

Before assembled connection



Push-in force approx. 60N = 6.0 kg at 15L

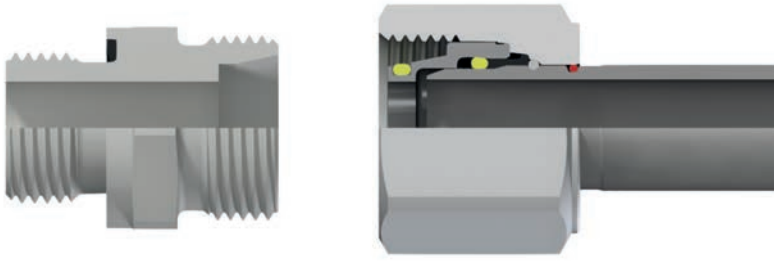
Connection assembled



For tubes and hoses

If the red ring is not visible,
the connection is fitted correctly!

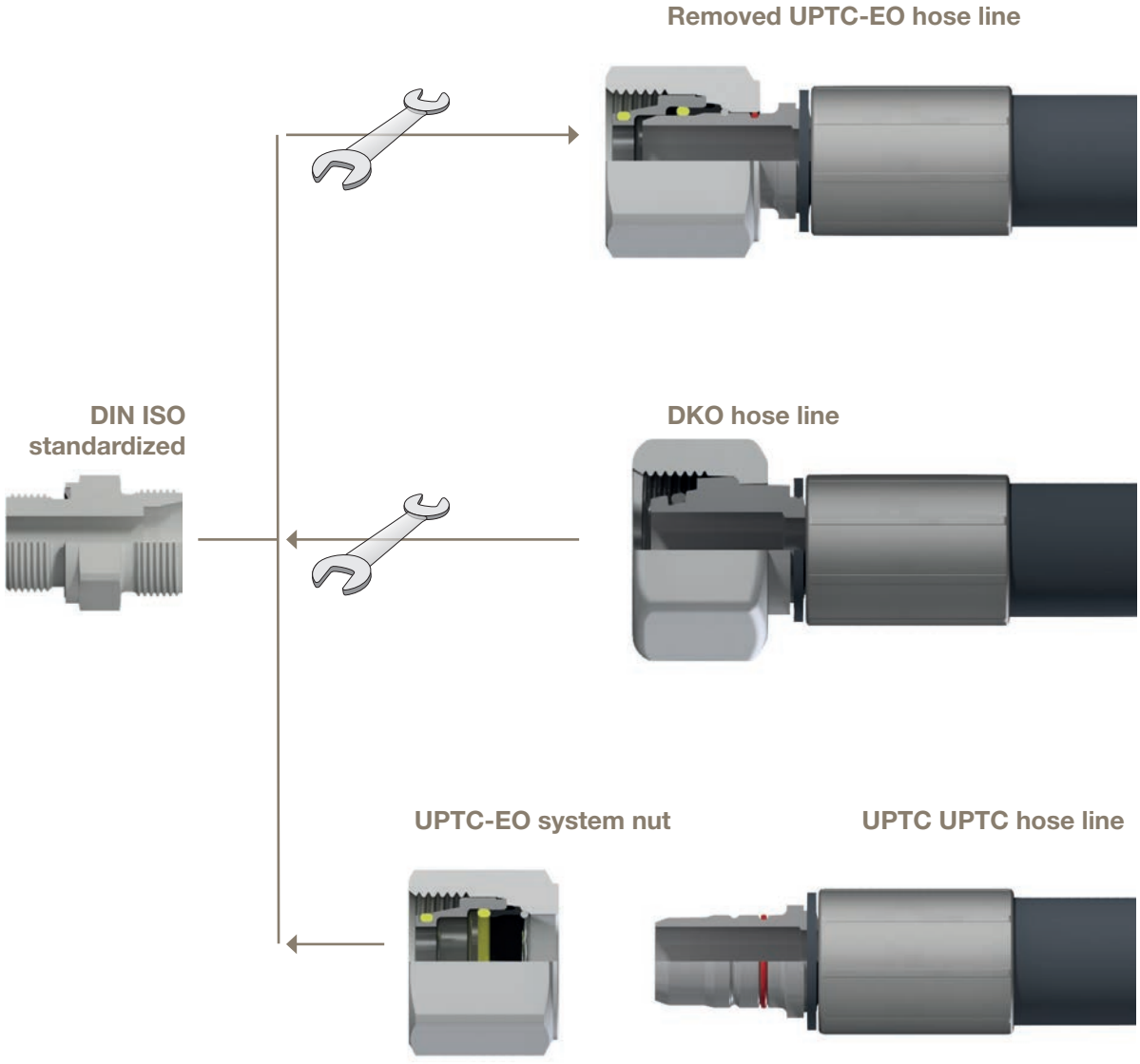
Connection disassembled



UPTC exchange in the field

Simple and uncomplicated

Avoid downtimes! The UPTC push-in system is removable at the UPTC system nut with a common wrench. The standardized DIN ISO interface is free and ready for the commonly exchange.



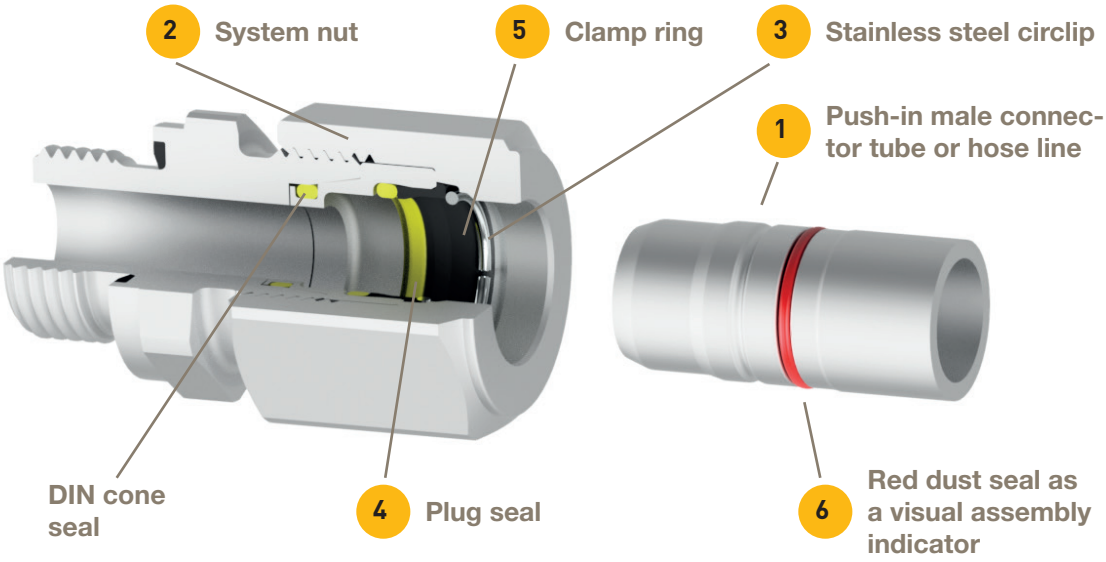
For tubes and hoses

Any ISO 8434 hydraulic line can be easily converted into an UPC push-in system, by using the UPTC system nut.

The UPTC technology in detail

Overview of all components

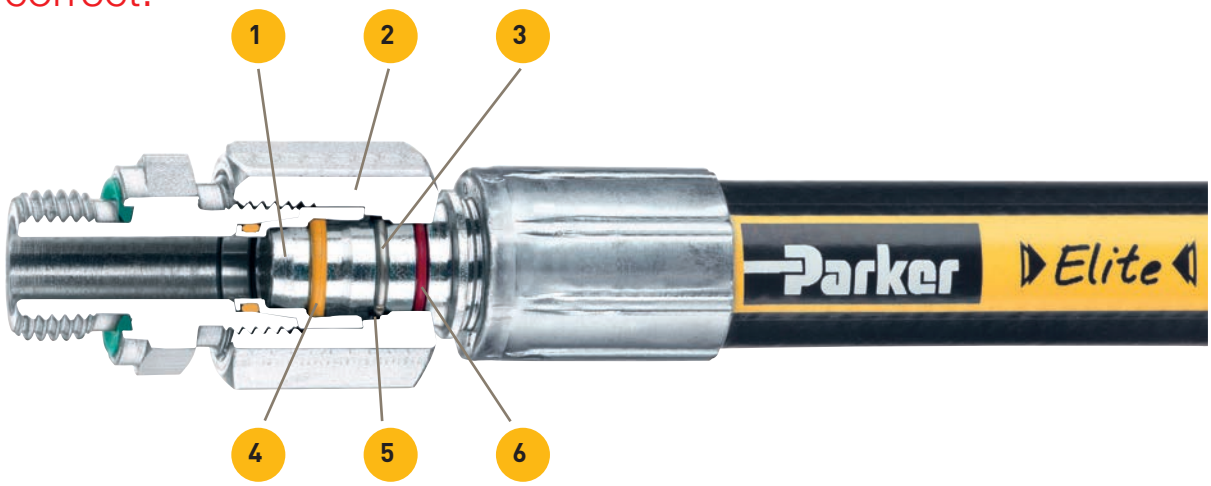
Patented UPTC connection technology (before assembly)



The UPTC Double Lock technology
We make push-in connections safer (after assembly)

The UPTC Double Lock consists of the First Lock (circlip retaining ring against tear-out) and the Pressure-Lock (clearance and wear-free pressure lock). After the connector (1) is inserted into the system nut (2), the stainless steel ring (3) snaps into place and forms a solid connection. The yellow seal (4) is a soft sealing to the connector (1) to offer an optimal sealing without leakage. The black clamping ring (5) locks the connection without clearance or wear under system pressure (pressure locking). The red dust seal (6) also serves as a visual assembly indicator.

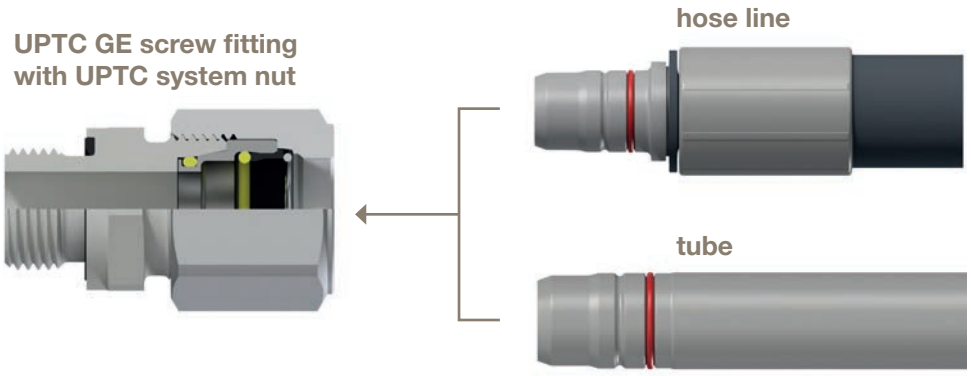
Checking the correct connection is as simple as can be: The visual Check „If the red ring is covered, everything is correct!“ The haptic test: After plugging in, briefly pull the male end plug once. End plug, if it remains in position, everything is correct.



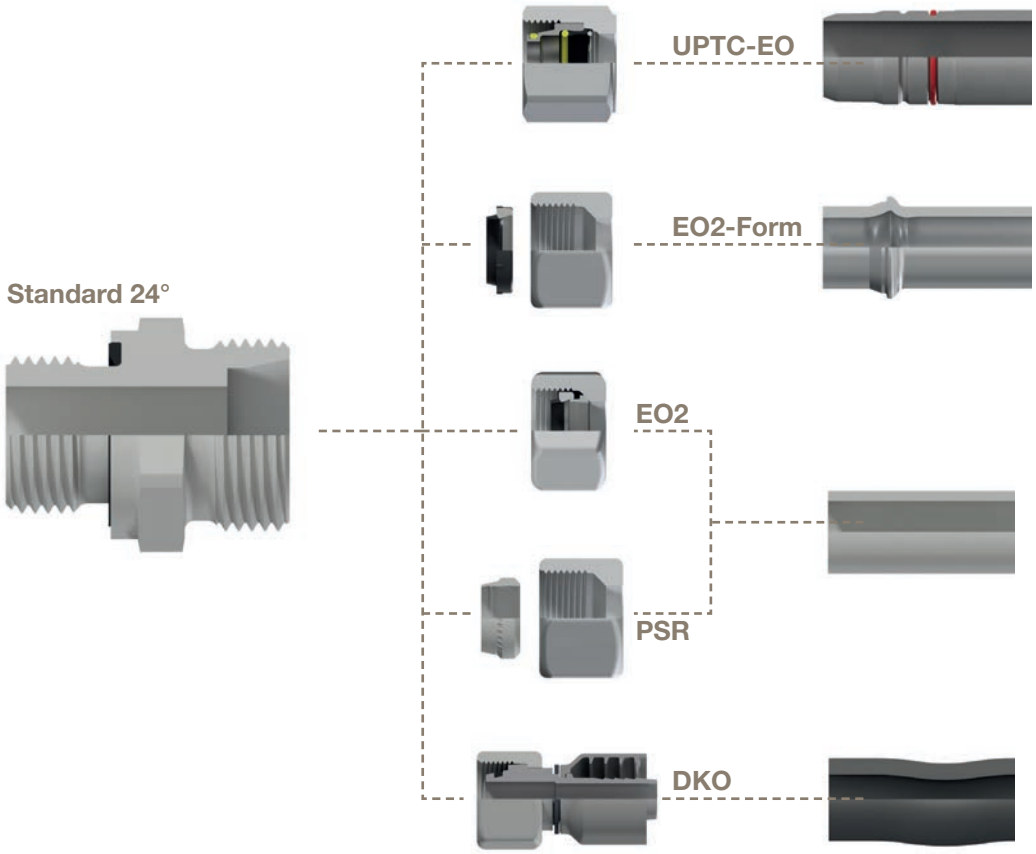
The UPTC technology in detail

The push-in fitting for hoses and steel tubes

UPTC for steel tubes and hose lines



With UPTC, you are always free and flexible in the range of Parker DIN fittings.

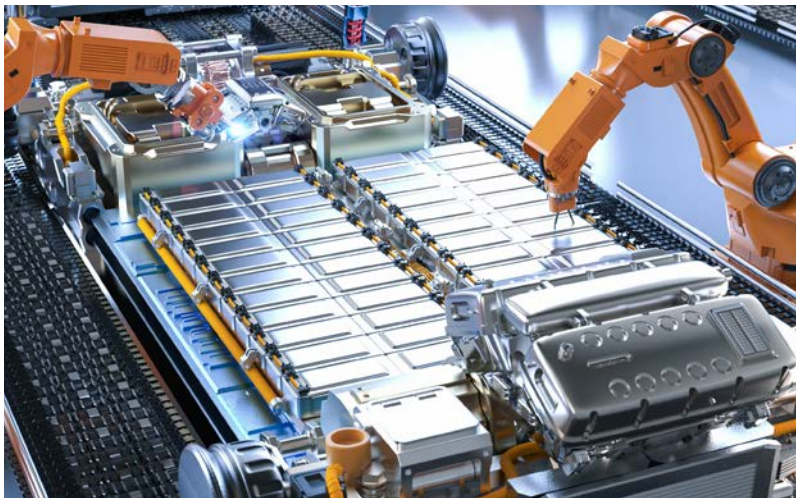


UPTC technology in detail

Pre-assembled UPTC – an unbeatable advantage

Did you know? Order pre-assembled UPTC connections from Parker! Easily assembling in confined spaces by using a standard socket!

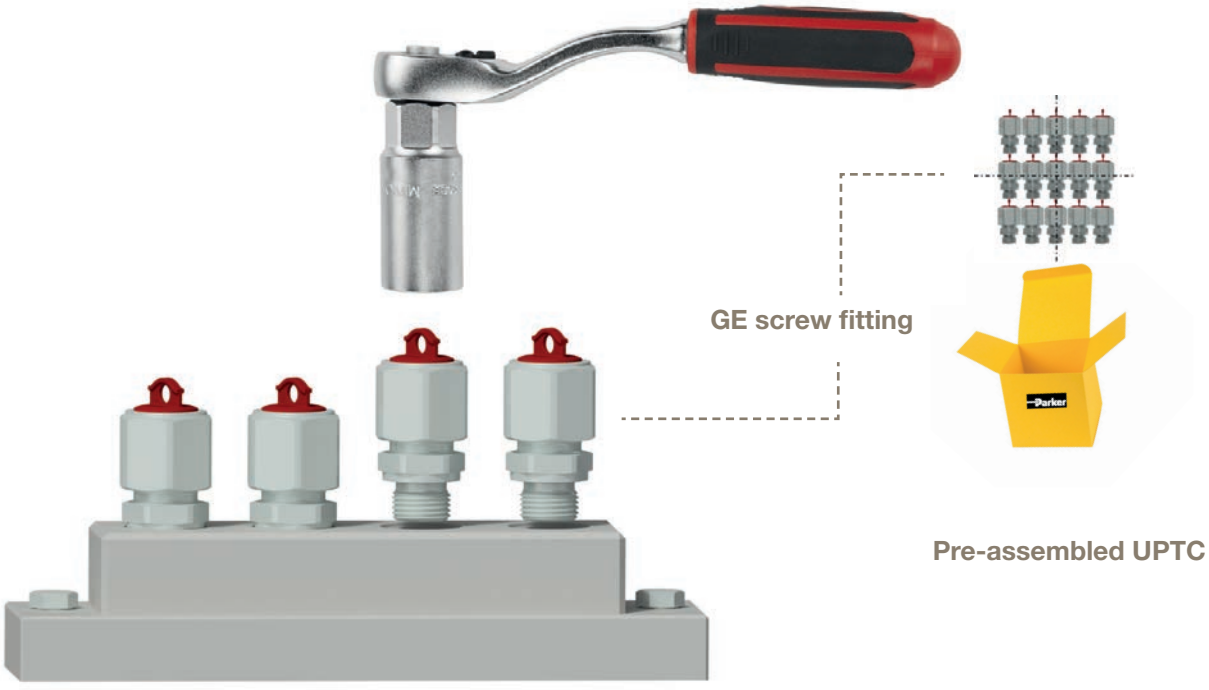
The pre-assembled UPTC screw fitting offers a higher torque than the screw fitting requires for the final screwing. This makes it easy for you to reach mounting points quick and safe.



More production

In your production, UPTC means: More clock cycles thanks to simple push-fitting and improved reliability! „Faster assembly – with no risk!“ thanks to patented Parker technology.

Simplicity and speed matters!



UPTC technology in detail

Performance data

- Material: Steel
- Retaining ring: Stainless steel
- Seal material: HNBR (hydrogenated nitrile butadiene rubber)
- Ambient temperature: -40 °C to 150 °C
- Media compatibility: Hydraulic oil, diesel, air, etc.
- Surface: CF Cr(VI)-free, galvanized (steel)

Performance data

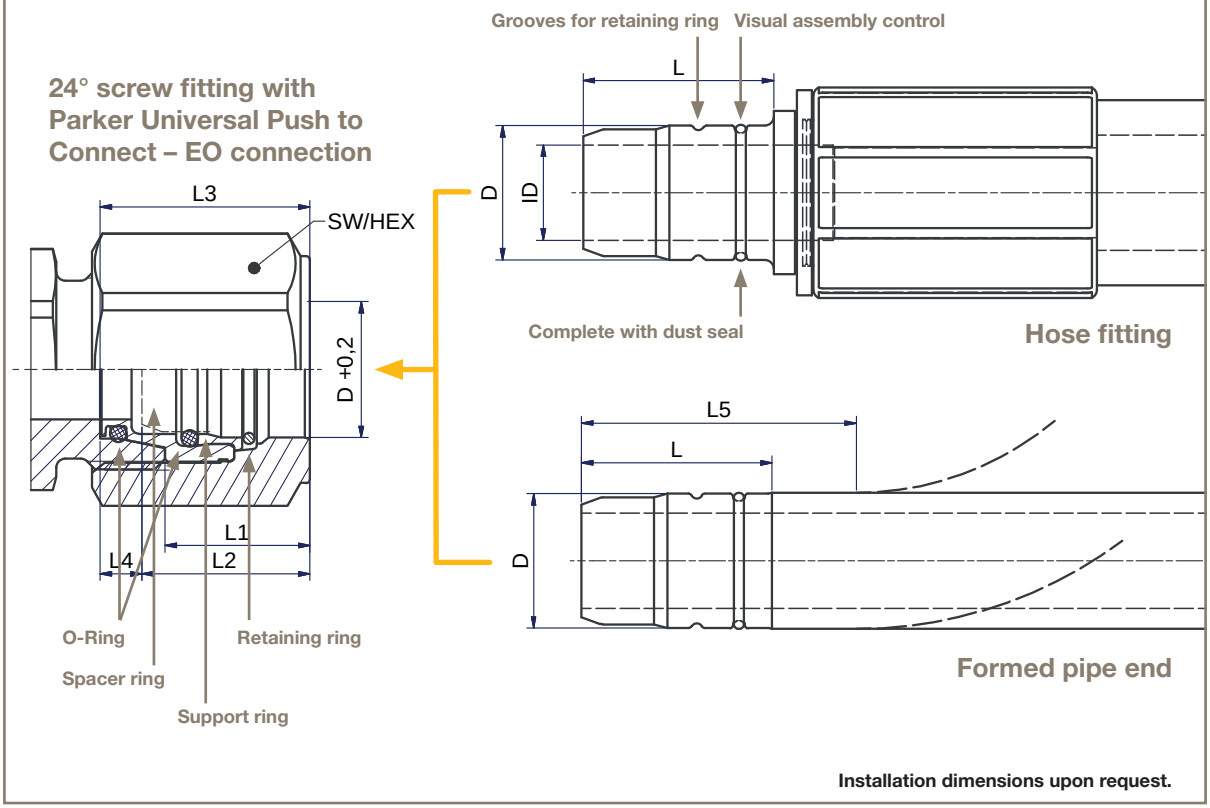
DN max. **INCH [Hose]**	-4	-5	-6	-8	-10	-12	-16
DN max. **MM [Hose]**	6	8	10	12	16	20	25
UPTC Size [DIN]	8L	10L	12L	15L	18L	22L	28L
PN [bar] dynamic and static	400	350	350	290	280	215	215

- Repeat assembly in accordance with DIN EN ISO 19879
- Leak testing in accordance with DIN EN ISO 19879
- Burst pressure testing in accordance with DIN EN ISO 19879
- Pulse testing in accordance with SO 6803
- Vacuum testing in accordance with DIN EN ISO 19879
- Coating testing
- Combined pulse/vibration testing in accordance with DIN EN ISO 19879
- Flex pulse test with hose in accordance with SAE J1405
- Corrosion testing in accordance with ISO 92227
- Dust Box Test (Arizona Road Dust)
- Low temperature testing
- High temperature testing
- Vibration test with extreme load / 20 G, with standardized dust and moisture

Parker and a test institute have developed an a unique long-term extreme test for UPTC compared to other push-in systems. UPTC has successfully completed +500h without any signs of wear and tear.

Technical data

System design



Type [mm/inch]	D	L	ID	L1	L2	L3	(L4)	L5min	SW/ HEX	Max. hose DN [mm/inch]
8L / -4	7,8	17,5	5	12	15	19	4	29	17	6/ -4
10L/ ...	9,4	18	6,5	12,5	15,5	19,5	4	33	19	8/ ...
12L/ -6	11,8	19	8,5	13,5	16,5	20,5	4	37	22	10/ -6
15L/ -8	14,8	21	11	16	18,5	23	4,5	45	27	12/ -8
18L/ -10	17,8	23	13,5	17,5	20	25	5	50	32	16/ -10
22L/ -12	21,8	23	17,5	17,5	20	25	5	56	36	20/ -12
28L/ -16	24,8	24,5	20,5	18,5	21,5	26	4,5	62	41	25/ -16

UPTC order data

Explanation of order references

GE — **Type**
Reference for
Support form

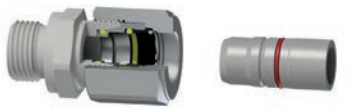
15 — **Tube ext. diam.**
in mm

UELKM — **UPTC-EO series**

R — **Thread version and size**
R pipe thread cylindrical
M metric thread cylindrical

ED — **Seal version**
ED M/R Eolastic seal
ISO 6149 O-Ring
M/R metal sealing edge
UN/UNF O-Ring
NPT tapered thread

CF — **Material surface**
Galvanized Cr(VI)-free



Example: UPTC screw fitting-GE15UELKMREDCF

Example: UPTC screw fitting EW15UELKMCF

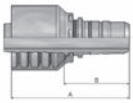
	Pipe AD (mm)	Screw-in plugs	PN	Order no.
DIN	8	M12 x 1,5	400	GE08UELKMMEDCF
DIN	10	M14 x 1,5	350	GE10UELKMMEDCF
DIN	12	M16 x 1,5	350	GE12UELKMMEDCF
DIN	15	M18 x 1,5	295	GE15UELKMMEDCF
DIN	18	M22 x 1,5	280	GE18UELKMMEDCF
DIN	22	M26 x 1,5	215	GE22UELKMMEDCF
DIN	28	M33 x 2	215	GE28UELKMMEDCF

UPTC provides a wide range of applications thanks to the DIN compatibility with 24°screw fittings.

UPTC order data

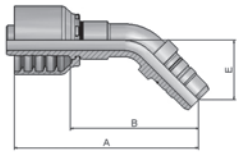
Hose nipple, hydraulic hose, Elastomer (rubber)

EN  UPTC Straight



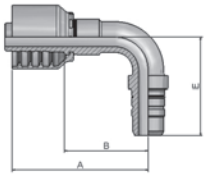
XXXXX-XX-XX Order no.		Hose ID				Pipe AD	A	B
46	48	DN	Inch	Size	mm	mm	mm	mm
1EN46-10-5 *	1EN48-10-5 *	8	5/16	-5	7,9	10	50	26
1EN46-12-6	1EN48-12-6	10	3/8	-6	9,5	12	50	27
1EN46-15-8	1EN48-15-8	12	1/2	-8	12,7	15	53	29
1EN46-18-10	1EN48-18-10	16	5/8	-10	15,9	18	56	31
1EN46-22-12	1EN48-22-12	20	3/4	-12	19,1	22	58	33
1EN46-28-16 *	1EN48-28-16 *	25	1	-16	25,4	28	68	38

EU  UPTC 45° Elbow



XXXXX-XX-XX Order no.		Hose ID				Pipe AD	A	B	E
46	48	DN	Inch	Size	mm	mm	mm	mm	mm
1EU46-10-5 *	1EU48-10-5 *	8	5/16	-5	7,9	10	68	45	23
1EU46-12-6	1EU48-12-6	10	3/8	-6	9,5	12	71	48	23
1EU46-15-8	1EU48-15-8	12	1/2	-8	12,7	15	78	54	25
1EU46-18-10	1EU48-18-10	16	5/8	-10	15,9	18	84	59	32
1EU46-22-12	1EU48-22-12	20	3/4	-12	19,1	22	95	69	33
1EU46-28-16 *	1EU48-28-16 *	25	1	-16	25,4	28	115	85	38

ET  UPTC 90° Elbow



XXXXX-XX-XX Order no.		Hose ID				Pipe AD	A	B	E
46	48	DN	Inch	Size	mm	mm	mm	mm	mm
1ET46-10-5 *	1ET48-10-5 *	8	5/16	-5	7,9	10	58	35	39
1ET46-12-6	1ET48-12-6	10	3/8	-6	9,5	12	57	34	40
1ET46-15-8	1ET48-15-8	12	1/2	-8	12,7	15	61	38	45
1ET46-18-10	1ET48-18-10	16	5/8	-10	15,9	18	65	39	57
1ET46-22-12	1ET48-22-12	20	3/4	-12	19,1	22	80	54	64
1ET46-28-16 *	1ET48-28-16 *	25	1	-16	25,4	28	102	72	75

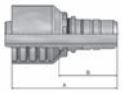
Suitable for many fittings and hose types.

*Available upon request. For details see CAT 4400

UPTC order data

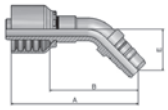
Hose nipple, Thermoplast hose

EN  UPTC Straight



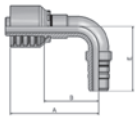
XXXXX-XX-XX Order no.	Hose ID				Pipe AD	A	B	Max. WP
	DN	Size	mm	Inch	mm	mm	mm	MPa
1EN56-8-4	6	-04	6,4	1/4	8	51	26	40
1EN56-10-4 *	6	-04	6,4	1/4	10	52	27	35
1EN56-10-5 *	8	-05	7,9	5/16	10	54	28	35
1EN56-12-6	10	-06	9,5	3/8	12	55	30	35
1EN56-15-8	12	-08	12,7	1/2	15	59	30	29,5
1EN56-18-10	16	-10	15,9	5/8	18	68	35	28
1EN56-22-12	20	-12	19,0	3/4	22	69	35	21,5
1EN56-28-16 *	25	-16	25,4	1	28	83	35	21

EU  UPTC 45° Elbow



XXXXX-XX-XX Order no.	Hose ID				Piper AD	A	B	E	Max. WP
	DN	Size	mm	Inch	mm	mm	mm	mm	MPa
1EU56-8-4	6	-04	6,4	1/4	8	68	26	22	40
1EU56-10-4 *	6	-04	6,4	1/4	10	67	27	21	35
1EU56-10-5 *	8	-05	7,9	5/16	10	69	28	22	35
1EU56-12-6	10	-06	9,5	3/8	12	72	30	23	35
1EU56-15-8	12	-08	12,7	1/2	15	78	30	24	29,5
1EU56-18-10	16	-10	15,9	5/8	18	92	35	29	28
1EU56-22-12	20	-12	19,0	3/4	22	104	35	30	21,5
1EU56-28-16 *	25	-16	25,4	1	28	133	85	38	21

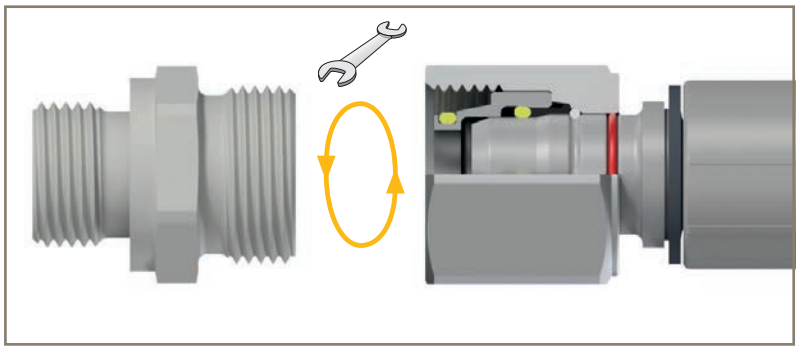
ET  UPTC 90° Elbow



XXXXX-XX-XX Order no.	Hose ID				Pipe AD	A	B	E	Max. WP
	DN	Size	mm	Inch	mm	mm	mm	mm	MPa
1ET56-8-4	6	-04	6,4	1/4	8	53	28	38	40
1ET56-10-4 *	6	-04	6,4	1/4	10	53	28	38	35
1ET56-10-5 *	8	-05	7,9	5/16	10	55	29	39	35
1ET56-12-6	10	-06	9,5	3/8	12	58	32	40	35
1ET56-15-8	12	-08	12,7	1/2	15	68	39	45	29,5
1ET56-18-10	16	-10	15,9	5/8	18	74	41	54	28
1ET56-22-12	20	-12	19,0	3/4	22	92	58	60	21,5
1ET56-28-16 *	25	-16	25,4	1	28	115	67	75	21

Suitable for many fittings and hose types.

Maintenance – Repair

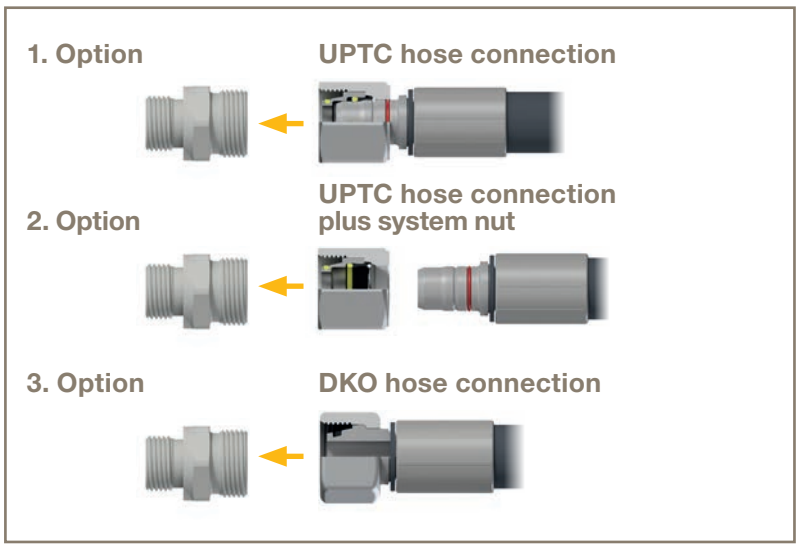


Initial situation

Easy disassembly in the field

During disassembly, the system nut will be removed from the screw socket. The male end and UPTC system nut remain as a single unit.

- Remove and install like common screw fitting connections. Also works under heavy contamination.
- No specialized tools are required.



1. Ideally, the system will be undamaged. The system nut sits on the nipple. Release the system nut. You can continue to use the system again.
2. To exchange the hose, for instance, exchange the system nut, the hose and the fitting (all components except for the socket).
3. If a repair is needed, the entire Parker DKO system can also be inserted.

Tube connection repairs

Repairs are easy to handle:

- The plug connection can easily be exchanged for standardized series components. Tubes are repaired by mounting progressive rings (PSR) or EO-2 functional nuts, for instance, with a new tube
- The UPTC connection system is maintenance-free. During normal line inspections, the Parker push-in connections should be visually inspected.

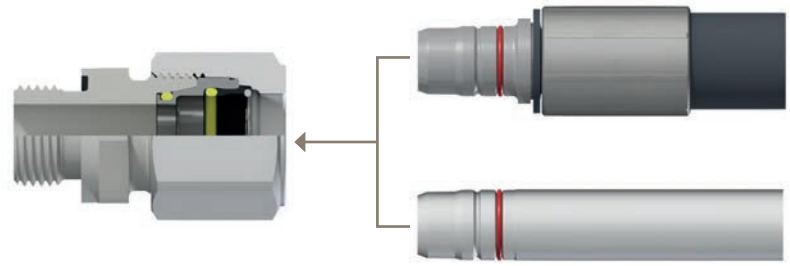
Repeat assembly

- To disassemble the push-in connection, unscrew the UPTC system nut by using a common wrench.
- Before re-assembling the connection, ensure the spacer ring is installed and the O-rings and support ring are not damaged. Complete assembly like DKO assembly with the same torques.

UPTC – Summary

Wherever a screw fitting would be difficult to handle

UPTC – A champion for series production! With UPTC, you have a high-performing push-in system for many different applications from small to large series.



If the red ring is not visible,
the connection is fitted correctly!

Advantages

- Cost savings thanks to push-in connections instead of screw fitting
- Soft sealing push-in connection system for steel tubes and hoses
- Standardized ISO 8434 interface / flexible design
- Free of clearance and leakage in the connection

Applications

- Commercial vehicles
- Agricultural, construction and mining equipment
- Use in hydraulic systems, cooling systems
- Braking systems, tilt hydraulic systems
- Wind power

Assembly

- Excellent time savings thanks to tool-free push-in connections
- Immediate and ongoing ability to inspect the connection
- Very user-friendly / pre-assembled UPTC fittings
- No specialized tools required to release the connection
- Suitable for installation in confined spaces

Technology

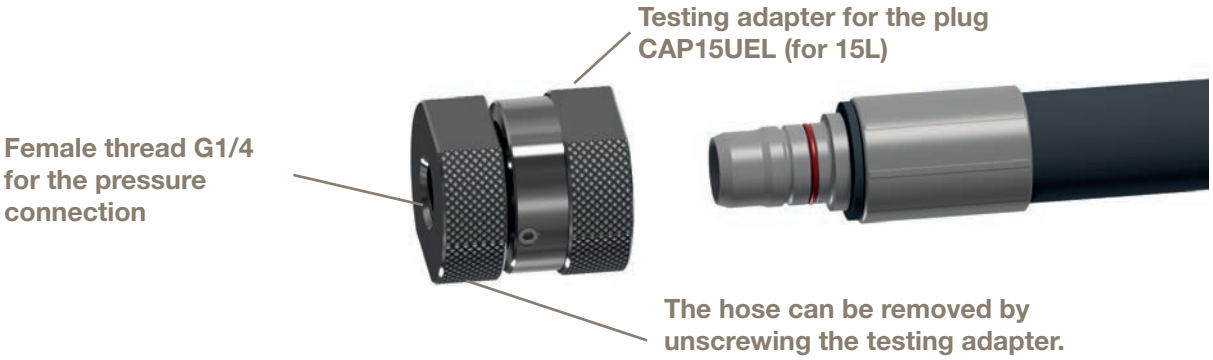
- Patented pressure-locking push-in connection without any clearance
- Steel design, with soft sealing connection
- Connection side always 24° ISO 8434
- Up to 400 bar PN, suitable for the following media: Hydraulic oil, diesel, air

UPTC work preparation

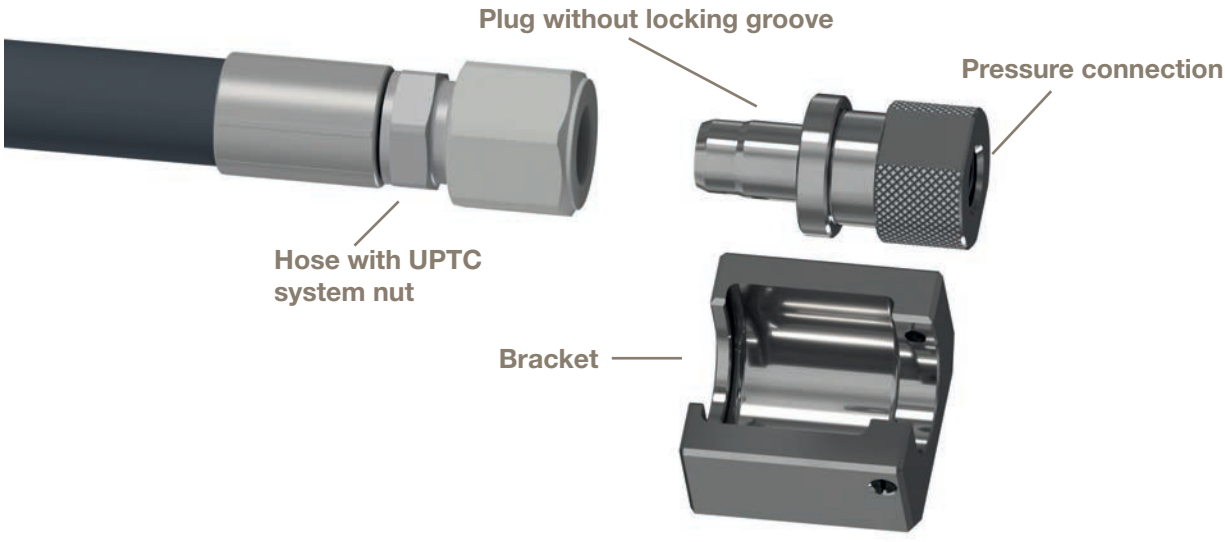
Check for leaks before installing

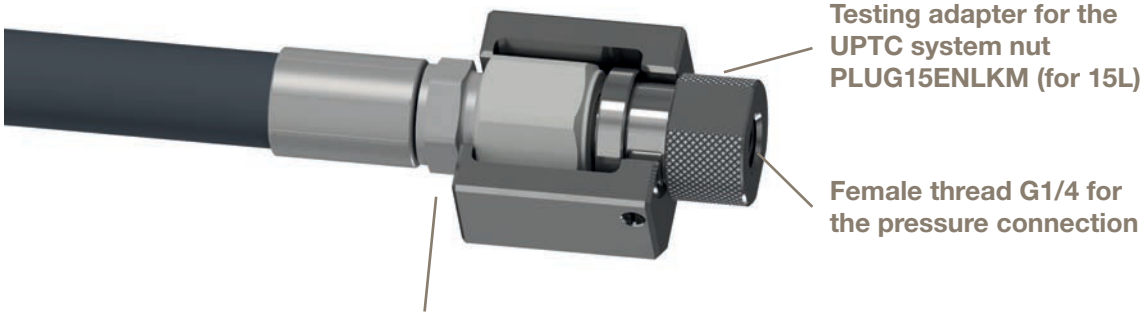
The UPTC test adapter for series work preparation

For hose lines with a UPTC system nut



For hose lines with a UPTC system nut





Further system information

UPTC in hose applications

Unlike the use of DKOL hose assemblies, here the hose is not tensioned to torsion or aligned to desired fit during mating. Since UPTC does not support locking in radial movement of the hose in the unpressurized state. Consequently, additional hose fixation is to be considered or even recommended depending on the application, so that the desired course of the hose is maintained and held in the desired position.

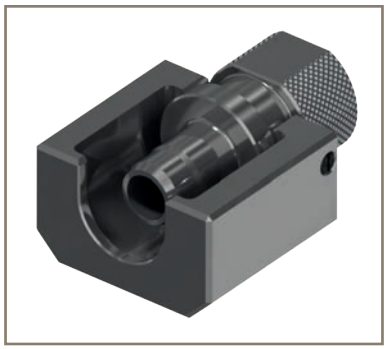
When pressurized, this condition changes promptly in favor of your application, because with UPTC, the integrated, automatic pressure lock is activated by its own system pressure and stiffens the connection completely (almost mimicking a screw connection), thus providing additional resistance to vibration and movement.

Basically, in applications in aggressive application environments, the stiffening of a push-fit hydraulic connection increases its life enormously in terms of wear, leakage and prevents against failure.
This ensures that in safety-relevant applications, the plug-in connection is a reliable hydraulic connection in the field.

Additional tools for testing purposes

CAP: CAP: Tool to connect the UPTC plug with a test bench and release the connection once again.

Order number: CAP15UEL



PLUG: PLUG: Tool to connect the UPTC system nut with a test bench and release the connection once again.

Order number: PLUG15ENLKM

Applications:

- **Checking pre-assembled components for leaks**
- **For test runs of complete UPTC push-in connections (valves, motors, etc.)**
- **Connect to flushing system to be able to clean/flush the lines accordingly**

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