Parker Legris :
Machinery Directive Compliance

ENGINEERING YOUR SUCCESS.

Safety: Our Priority

Goal
This simple didactic diagramm provides the essential requirements to be taken into account to ensure the global safety of your machinery.

START

Regulation Context
Machinery Directive 2006/42/EC
Previously 98/37/EC
Covering all safety aspects of machinery including components

Who is impacted?
OEM or MRO machines or safety components sold in the UE.

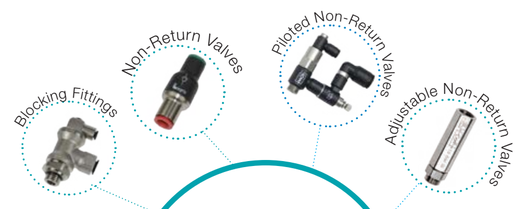
Technical file
First mandatory step:
- Declaration of Conformity
- EC marking

Deep safety analysis
assess the risks of all components and the hazards they represent for users

ISO 12100
Risk analysis methodology
Risk?

Mandatory Risk Reduction

Components within the Safety Control System



How to determine PL
PL is determined by 4 criteria :
CCF: Common Cause Failure, number corresponding to a type or function
Category: define the architecture of your safety line based on 5 levels: B, 1, 2, 3 and 4
DCavg: Diagnostic Coverage average, measure the diagnostic coverage of dangerous failures
MTTFd: Mean Time To Dangerous Failure, gives the mean time until 10% of the components fail dangerously
Refer to the ISO 13849-1 standard.

PL
Performance Level evaluated from components reliability

NO: new evaluation required

PL ≥ PLr?

PLr
Performance Level Required for safety functions

How to determine PLr?
3 criteria to be taken into account:
S: Severity of injury
F: Frequency of time exposure to hazard
P: Possibility of avoiding risk or limitating damage
Refer to the ISO 13849-1 standard.

Technical file
Safety partially finalized

Mandatory EC marking

DN ≥ 25 mm

Nominal diameter DN ≥ 25 mm?

Why is DN discriminant?
Equipment under pressure classified according to:
- Maximum working pressure
- Volumes related to DN
- Fluid category

Refer to DI 2014/68/EU, appendix 2.

DN < 25 mm

Technical state of the art rules
DI 2014/68/EU

Components outside the Safety Control System

For non-safety components, check level of design reliability for safe use

Safe use of machinery
Components must be compliant with directives and norms related to applications and design of equipments.
RoHS · REACh · CE · BAM · ISO 14743 · ISO 4414 · UL94 · IP68 · AFAQ ISO 9001 · FDA · Ex · NSF

Parker Legris Products Data Sheet
All necessary data to help you to complete technical files including:
- Technical specifications
- Quality and products certificates
- B10d data, literature
- CAD drawings
- Safety data

Technical file
fully finalized
Machinery safe

Parker Legris Ranges for Safety

Function Fittings

Blocking Fittings

✓ Lock the piston by cutting off the supply and exhaust when the pilot signal is removed

Working Pressure	1 to 10 bar
Working Temperature	-20°C to +70°C

7880 — Blocking Fitting, Male BSPP Thread

ØD	C	
6	G1/8	7880 06 10
	G1/4	7880 06 13
8	G1/4	7880 08 13
	G3/8	7880 08 17
10	G3/8	7880 10 17
12	G1/2	7880 12 21

7881 — Blocking Fitting, Male/Female BSPP Thread

C1	C2	
G1/8	G1/4	7881 13 10
G1/4	G1/4	7881 13 13
G3/8	G3/8	7881 17 17
G1/2	G1/2	7881 21 21

7883 — Blocker/Flow Regulator, Male BSPP Thread

ØD	C	
4	G1/8	7883 04 10
6	G1/8	7883 06 10
	G1/4	7883 06 13
8	G1/4	7883 08 13
	G3/8	7883 08 17

Piloted Non-Return Valves

✓ Block cylinder in all positions
✓ Maintain loads in case of pressure loss
✓ Protection of equipment

Working Pressure	1 to 10 bar
Working Temperature	-5°C to +60°C

7892 — Piloted Non-Return Valve, Male BSPP Thread

ØD	C	
6	G1/8	7892 06 10
	G1/4	7892 06 13
8	G1/8	7892 08 10
	G1/4	7892 08 13
	G3/8	7892 08 17
10	G3/8	7892 10 17
	G1/2	7892 10 21
12	G1/2	7892 12 21

7894 — Piloted Non-Return Valve with Flow Regulator and Exhaust, Male BSPP

ØD	C	
6	G1/8	7894 06 10
	G1/4	7894 06 13
8	G1/8	7894 08 10
	G1/4	7894 08 13
	G3/8	7894 08 17
10	G3/8	7894 10 17
	G1/2	7894 10 21
12	G1/2	7894 12 21

Non-Return Valves

✓ Prevent flow from flowing in one direction
✓ Fitted upstream of the circuit to be protected

Working Pressure	0 to 10 bar
Working Temperature	0°C to +70°C

7984 — In-Line Non-Return Valve, Supply, Male BSPP and Metric Thread

ØD	C	
4	M5x0.8	7984 04 19
	G1/8	7984 04 10
6	G1/8	7984 06 10
	G1/4	7984 06 13
8	G1/8	7984 08 10
	G1/4	7984 08 13

7994 — In-Line Non-Return Valve, Exhaust, Male BSPP and Metric Thread

ØD	C	
4	M5x0.8	7994 04 19
	G1/8	7994 04 10
6	G1/8	7994 06 10
	G1/4	7994 06 13
8	G1/8	7994 08 10
	G1/4	7994 08 13

7996 — In-Line Equal Non-Return Valve

ØD	
4	7996 04 00
6	7996 06 00
8	7996 08 00
10	7996 10 00
12	7996 12 00

Pressure Reducers

✓ Designed to set the pressure of a circuit to a determined value

7316 — In-Line Tube-to-Tube Pressure Reducer

ØD	
6	7316 06 00
8	7316 08 00

Soft Start Fittings

✓ Prevent the risk of damage
✓ Prevent the risk of industrial accident
✓ Return the control valve to its initial position

Working Pressure	3 to 10 bar
Working Temperature	-15°C to +60°C

7860 — Soft Start Fitting for Isolating Valve, Male BSPP Thread

ØD	C	
8	G1/4	7860 08 13
10	G1/4	7860 10 13
	G3/8	7860 10 17

7870 — Soft Start Fitting for Control Valve, Male BSPP Thread

ØD	C	
8	G1/4	7870 08 13
10	G1/4	7870 10 13
	G3/8	7870 10 17

7861 — Soft Start Fitting for Isolating Valve, Male/Female BSPP Thread

C	
G1/4	7861 13 13
G3/8	7861 17 17

7871 — Soft Start Fitting for Control Valve, Male/Female BSPP Thread

C	
G1/4	7871 13 13
G3/8	7871 17 17

Working Pressure	1 to 8 bar
Working Temperature	-15°C to +60°C

7318 — Banjo Pressure Reducer, Male BSPP Thread

ØD	C	
6	G1/8	7318 06 10
	G1/4	7318 06 13
8	G1/4	7318 08 13

Nickel-Plated Brass Adjustable Non-Return Valves

✓ Allow compressed air to flow in one direction
✓ Adjustable cracking pressure

Working Pressure	0 to 12 bar
Working Temperature	-20°C to +80°C

7930 — Adjustable Check Valve, Double Female BSPP and Metric Thread

C	
M5x0.8	7930 19 19
G1/8	7930 10 10
G1/4	7930 13 13
G3/8	7930 17 17
G1/2	7930 21 21

7931 — Adjustable Check Valve Supply, Male/Female BSPP Thread

C	
G1/8	7931 10 10
G1/4	7931 13 13
G3/8	7931 17 17
G1/2	7931 21 21

7932 — Adjustable Check Valve Exhaust, Male/Female BSPP Thread

C	
G1/8	7932 10 10
G1/4	7932 13 13
G3/8	7932 17 17
G1/2	7932 21 21

Pneumatic Sensor Fittings

✓ Allow to detect the cylinder rod position thanks to the back pressure threshold

7828 — Pneumatic/Electric Sensor, Male/Female BSPP Thread

C	
M5x0.8	7828 00 19
G1/8	7828 00 10
G1/4	7828 00 13
G3/8	7828 00 17

Snap Fittings

✓ Guarantee repeated connections and disconnections
✓ Facilitate installation operations

Working Pressure	0 to 10 bar
Working Temperature	-20°C to +80°C

7926 — Body with Push-In Connection

ØD	DN	
6	5	7926 05 06
8	5	7926 05 08
10	7.3	7926 07 10

7921 — Body with Male BSPP Thread

C	DN	
G1/8	5	7921 05 10
G1/4	5	7921 05 13
	7.3	7921 07 13
G3/8	7.3	7921 07 17

7960 — Straight Probe, Push-In Connection

ØD	DN	
6	5	7960 05 06
8	5	7960 05 08
10	7.3	7960 07 10

7961 — Straight Probe, Male BSPP Thread

C	DN	
G1/4	7.3	7961 07 13
G3/8	7.3	7961 07 17

Working Pressure	3 to 8 bar
Working Temperature	-15°C to +60°C

7818 — Pneumatic Sensor Fitting, Male BSPP and Metric Thread

C	
M5x0.8	7818 04 19*
G1/8	7818 04 10
G1/4	7818 04 13
G3/8	7818 04 17
G1/2	7818 04 21
G1/8	7818 19 10
G1/4	7818 19 13

* Bolt zinc passivated steel

Silencers

✓ Reduce noise levels on exhaust of the circuit

Working Pressure	Polyethylene: 0 to 10 bar, Sintered bronze: 0 to 12 bar
Working Temperature	Polyethylene: -10°C to +80°C Sintered bronze: -20°C to +150°C

0670 — Threaded Silencer, Male BSPP Thread

C	
G1/8	0670 00 10
G1/4	0670 00 13
G3/8	0670 00 17
G1/2	0670 00 21
G3/4	0670 00 27
G1	0670 00 34

0676 — Flow Control Polymer Silencer, Male BSPP and Metric Thread

C	
M5x0.8	0676 00 19
G1/8	0676 00 10
G1/4	0676 00 13
G3/8	0676 00 17
G1/2	0676 00 21

0674 — Polymer Silencer, Male BSPP and Metric Thread

C	
M5x0.8	0674 00 19
G1/8	0674 00 10
G1/4	0674 00 13
G3/8	0674 00 17
G1/2	0674 00 21
G3/4	0674 00 27
G1	0674 00 34

0671 — Push-In Silencer

ØD	
4	0671 04 00
6	0671 06 00
8	0671 08 00
10	0671 10 00
12	0671 12 00

0672 — Flow Control Silencer, Male BSPP Thread

C	
G1/8	0672 00 10
G1/4	0672 00 13
G3/8	0672 00 17
G1/2	0672 00 21

0673 — Compact Silencer, Male BSPP and Metric Thread

C	
M5x0.8	0673 00 19
G1/8	0673 00 10
G1/4	0673 00 13
G3/8	0673 00 17
G1/2	0673 00 21

Metal Quick Exhaust Valves

✓ Allow the exhaust to pass directly to atmosphere
✓ Product low noise emissions

Working Pressure	2 to 10 bar
Working Temperature	-10°C to +70°C

7971 — Elbow Exhaust Valve, Female BSPP Thread

C	C1	
G1/8	R1/8	7971 10 10
G1/4	R1/4	7971 13 13
G3/8	R3/8	7971 17 17
G1/2	R1/2	7971 21 21

Quick-Acting Couplers

C 9000 Polymer Quick-Acting Safety Couplers

✓ Prevent risk of whiplash
✓ Allow effortless connection/disconnection
✓ Avoid involontary disconnection risks

Compatible Fluids	Compressed air
Working Pressure	0 to 16 bar
Working Temperature	-20°C to +60°C
Component Materials	Technical polymer, nickel-plated brass, NBR

ISO B Profile
Series ISO B (DN 5.5): single shut-off = 1250 Nl/min
Series ISO B (DN 8): single shut-off = 2400 Nl/min

ARO Profile
Single shut-off = 1250 Nl/min

9401U — Coupler, Male BSPP Thread

DN	C	
5.5	G1/4	9401U06 13
	G3/8	9401U06 17
	G1/2	9401U06 21
8	G1/4	9401U08 13
	G3/8	9401U08 17
	G1/2	9401U08 21

9414U — Coupler, Female BSPP Thread

DN	C	
5.5	G1/4	9414U06 13
	G3/8	9414U06 17
	G1/2	9414U06 21
8	G1/4	9414U08 13
	G3/8	9414U08 17
	G1/2	9414U08 21

9440U — Y Coupler, Female BSPP Thread

DN	C	
5.5	G3/8	9440U06 17
8	G1/2	9440U08 21

9401A — Coupler, Male BSPP Thread

DN	C	
5.5	G1/4	9401A06 13
	G3/8	9401A06 17
	G1/2	9401A06 21

9414A — Coupler, Female BSPP Thread

DN	C	
5.5	G1/4	9414A06 13
	G3/8	9414A06 17
	G1/2	9414A06 21

9080A — Probe, Straight-Through, LF 3000® Push-In Connection, with Spiral Protection Spring

DN	ØD	
5.5	8	9080A06 08
	10	9080A06 10

9087U — Probe, Straight-Through, Male BSPP Thread

DN	C	
5.5	G1/4	9087U06 13
	G3/8	9087U06 17
	G1/2	9087U06 21
8	G1/4	9087U08 13
	G3/8	9087U08 17
	G1/2	9087U08 21

9094U — Probe, Straight-Through, with Hosetail

DN	ØD	
5.5	6	9094U06 06
	8	9094U06 08
	10	9094U06 10
8	8	9094U08 08
	10	9094U08 10
	13	9094U08 13

9080U — Probe, Straight-Through, LF 3000® Push-In Connection, with Spiral Protection Spring

DN	ØD	
5.5	8	9080U06 08
	10	9080U06 10
8	10	9080U08 10
	12	9080U08 12

9440A — Y Coupler, Female BSPP Thread

DN	C	
5.5	G3/8	9440A06 17

9094A — Probe, Straight-Through, with Hosetail

DN	ØD	
5.5	6	9094A06 06
	8	9094A06 08
	10	9094A06 10

9087A — Probe, Straight-Through, Male BSPP Thread

DN	C	
5.5	G1/4	9087A06 13
	G3/8	9087A06 17
	G1/2	9087A06 21

European Profile
Single shut-off = 2000 Nl/min

9401E — Coupler, Male BSPP Thread

DN	C	
7.2	G1/4	9401E07 13
	G3/8	9401E07 17
	G1/2	9401E07 21

9414E — Coupler, Female BSPP Thread

DN	C	
7.2	G1/4	9414E07 13
	G3/8	9414E07 17
	G1/2	9414E07 21

9094E — Probe, Straight-Through, with Hosetail

DN	ØD	
7.2	8	9094E07 08
	10	9094E07 10
	13	9094E07 13

9087E — Probe, Straight-Through, Male BSPP Thread

DN	C	
7.2	G1/4	9087E07 13
	G3/8	9087E07 17
	G1/2	9087E07 21

9440E — Y Coupler, Female BSPP Thread

DN	C	
7.2	G1/2	9440E07 21

9080E — Probe, Straight-Through, LF 3000® Push-In Connection, with Spiral Protection Spring

DN	ØD	
7.2	10	9080E07 10
	12	9080E07 12

Industrial Valves

Ball Valves, Universal Series, Lockable

✓ Prevent unintended operations
✓ Up to 3 points lockable plate in different positions
✓ Vented series allows discharge of downstream media

Compatible Fluids	Industrial fluids
Working Pressure	Vacuum to 40 bar
Working Temperature	-40°C to +80°C
Component Materials	Nickel-plated brass, NBR

0432 — 2/2 In-Line Lockable Ball Valve, Female BSPP Thread

DN	C	
4	G1/8	0432 04 10
7	G1/4	0432 07 13
10	G3/8	0432 10 17
13	G1/2	0432 13 21
20	G3/4	0432 20 27
23	G1	0432 23 34

Handle is not removable
Locking plates are zinc-plated steel

0439 — 3/2 In-line Vented Lockable Ball Valve, Female BSPP Thread

DN	C	
4	G1/8	0439 04 10
7	G1/4	0439 07 13
10	G3/8	0439 10 17
13	G1/2	0439 13 21
18	G3/4	0439 18 27
23	G1	0439 23 34

Handle is not removable
Locking plates are zinc-plated steel

0436 — 3/2 In-Line Lockable Ball Valve with Threaded Exhaust Port, Female BSPP and Metric Thread

DN	C	C1	
10	G3/8	M5x0.8	0436 10 17
13	G1/2	G1/8	0436 13 21
18	G3/4	G1/4	0436 18 27
23	G1	G1/4	0436 23 34

Handle is not removable
Locking plates are zinc-plated steel

0437 — 3/2 In-line Vented 3-Point Lockable Ball Valve, Female BSPP Thread

DN	C	
7	G1/4	0437 07 13
10	G3/8	0437 10 17
13	G1/2	0437 13 21
18	G3/4	0437 18 27
23	G1	0437 23 34

Handle is not removable
Locking plates are zinc-plated steel

0438 — 3/2 Right-Angled 3-Point Lockable Ball Valve, Female BSPP Thread

DN	C	
9	G3/8	0438 09 17
12	G1/2	0438 12 21
18	G3/4	0438 18 27
23	G1	0438 23 34

Working Pressure: 20 bar max.

Ball Valves, Standard Series, Lockable

✓ Prevent unintended operation
✓ 1 point lockable on handle
✓ Vented series allows discharge of downstream media

Working Pressure	0 to 30 bar according to the model
Working Temperature	-40°C to +170°C according to the model
Component Materials	Nickel-plated brass, FPM

BVG4-LOCK — 2/2 In-Line Lockable Ball Valve, Female BSPP Thread

DN	C	
8	G1/4	BVG4-1/4LOCK
10	G3/8	BVG4-3/8LOCK
15	G1/2	BVG4-1/2LOCK
20	G3/4	BVG4-3/4LOCK
25	G1	BVG4-1LOCK

Double stem seal in FPM
Working temperature: -40°C to +170°C

BVG4P-LOCK — 3/2 In-Line Lockable Vented Ball Valve, Female BSPP Thread

DN	C	
8	G1/4	BVG4P-1/4LOCK
10	G3/8	BVG4P-3/8LOCK
15	G1/2	BVG4P-1/2LOCK
20	G3/4	BVG4P-3/4LOCK
25	G1	BVG4P-1LOCK

Working pressure: 14 bar
Working temperature: -10°C to +100°C

Blowgun

✓ Fixed nozzle allowing quick pressure drop once directly in contact with an obstacle to ensure the user safety
✓ Nozzle, with an integrated, inviolable automatic pressure regulator

Compatible Fluids	Compressed air
Working Pressure	0 to 10 bar
Working Temperature	-15°C to +50°C
Component Materials	Technical polymer, NBR

0654 — Safety Blowgun, Lower Connection, Female BSPP Thread

C	DN	
G1/4	3	0654 00 13

Tamper-Proof Safety Clip

✓ Prevents accidental disconnection
✓ Disconnection only possible with tooling
✓ Visualisation of intervention

Compatible Ranges	LF 3000®, LIQUIfit®
Component Materials	Technical polymer

3130

ØD					
4	3130 04 01	3130 04 02	3130 04 03	3130 04 04	3130 04 05
6	3130 06 01	3130 06 02	3130 06 03	3130 06 04	3130 06 05	3130 06 10
8	3130 08 01	3130 08 02	3130 08 03	3130 08 04	3130 08 05	3130 08 10
10	3130 10 01	3130 10 02	3130 10 03	3130 10 04	3130 10 05	3130 10 10
12	3130 12 01		3130 12 03		3130 12 05	3130 12 10

WC/0593/UK Ed. 05-2017

ENGINEERING YOUR SUCCESS.