



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



PLC series Auxiliary Valves

Direct-acting Pressure Relief Valves



ENGINEERING YOUR SUCCESS.

List of contents	Page
General Information.....	3
PLC053.....	4
Single housing for PLC053.....	5
PLC082.....	6
Single housing for PLC082.....	7
Double housing for PLC082.....	8
PLC182.....	9
PLC280.....	10
Ordering	11

Subject to alteration without prior notice. The curves and diagrams in this catalogue are typical examples only. While the contents of the catalogue are updated continuously, the validity of the information given should always be confirmed. For more detailed information, please contact Parker Hannifin.



WARNING – USER RESPONSIBILITY

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

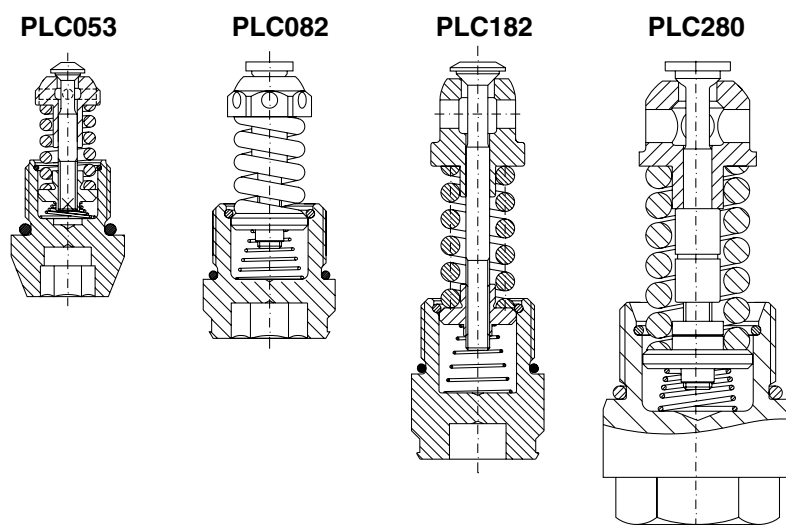
This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

Offer of Sale

Please contact your Parker representation for a detailed "Offer of Sale".



The PLC series auxiliary valves are direct-acting, factory-set pressure relief valves of the cartridge type that can be supplied with or without a threaded plug. They can also be supplied with housings to facilitate in-line installation.

PLC valves are intended primarily to act as combined pressure-relief and anti-cavitation valves - otherwise known as port relief valves - in the service ports of our directional valves. However, they can also be used to advantage in other situations where pressure relief valves in this size range are required. Indeed, PLC cartridge valves are purchased in great quantities by several of the world's leading pump and transmission manufacturers.

Construction and function

PLC pressure relief valves are made of high-strength steel and consist of a seat, poppet, spring and nut. After the pressure setting has been made, the damper nut is locked against the poppet by welding, in order to prevent the factory-set opening value from changing. When the cartridge is supplied with a plug, a spring is included to enable the cartridge to function as an anti-cavitation valve. An anti-cavitation valve is essentially a check valve that enables oil to be sucked from the tank line in order to prevent cavitation in a consumer. The plug is fitted with an O-ring of nitrile rubber.

Poppets without a pressure relief function are also available. They are used when only a 'check valve' is required to perform an anti-cavitation function.

Technical data

Flow capacity

The flow capacities of the respective PLC valves are dependent on the extent of pressure increment that can be accepted,

and are illustrated in the typical graphs that begin overleaf. The nominal flow capacities, however, are as follows:

PLC053	50 l/min
PLC082	80 l/min
PLC182	180 l/min
PLC280	280 l/min

Pressure-setting flow

As standard, the desired pressure is set with a flow of 20 l/min passing through the pressure relief valve. The exception is the PLC053, for which the pressure setting is made with a flow of 10 l/min passing through the valve.

Weights

PLC053	0,06 kg
PLC082	0,11 kg
PLC182	0,165 kg
PLC280	0,39 kg

The PLC valves are all supplied with a threaded plug.

Housing for PLC082 cartridge (inclusive of cartridge)	1,6 kg
Housing for two PLC082 cartridges (inclusive of cartridges)	2,8 kg

Hydraulic fluids

Best performance is obtained using mineral-base oil of high quality and cleanliness in the hydraulic system.

Hydraulic fluids of type HLP (DIN 51524), oil for automatic gearboxes Type A and engine oil type API CD can be used.

Synthetic, fire-resistant and environmentally friendly oils can also be used. If in doubt about the suitability of an oil, please contact your nearest Parker representative for advice.

For best function, oil viscosity should be between 15 and 45 mm²/s (cSt).

Filtration

Filtration should be arranged so that Target Contamination Class 20/18/14 according to ISO 4406 is not exceeded.

Temperature

Temperature range, fluid:

-20 °C to +90 °C

Temperature range, ambient:

-40 °C to +60 °C

Temperature shock resistance:

max. 100 °C/second

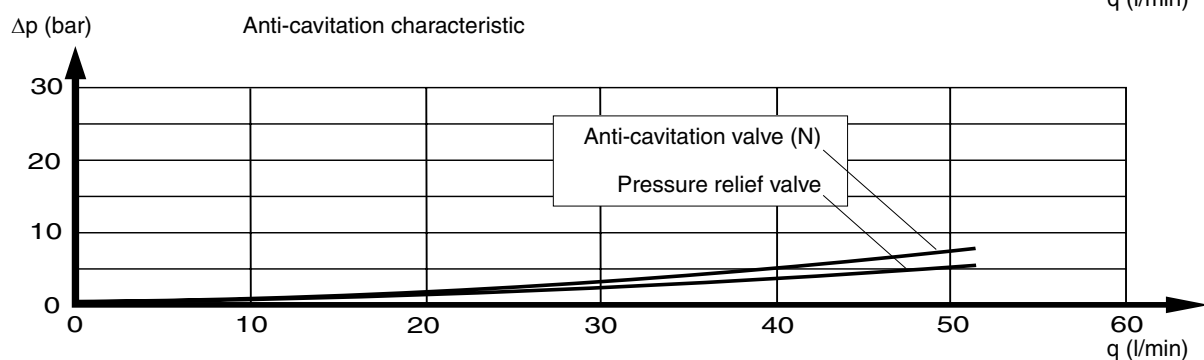
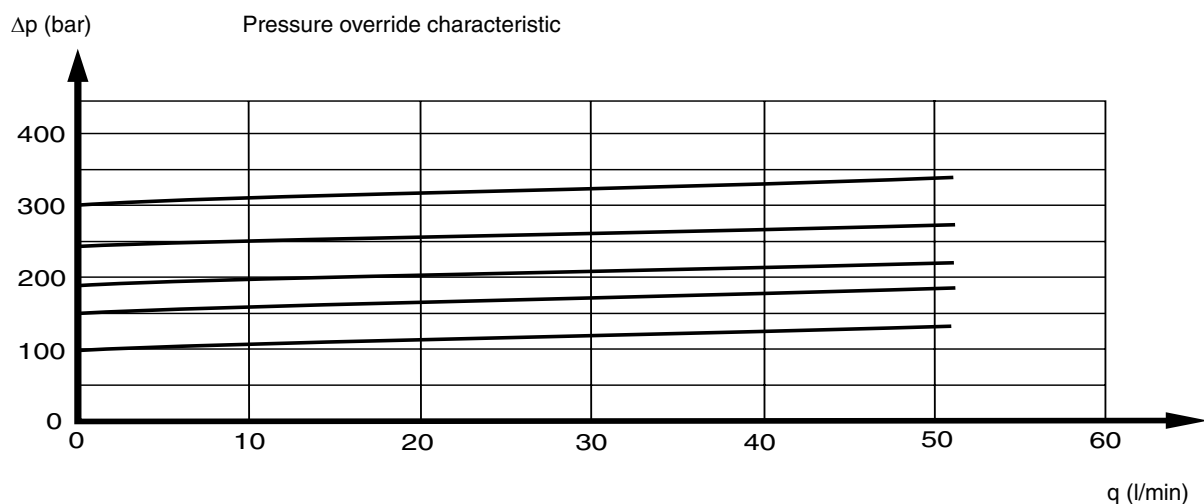
General

The data given in this catalogue is applicable at an oil temperature of 50 °C and viscosity of 30 mm²/s (cSt) using mineral-base oil complying with DIN 51524, when the cartridge valve is installed in a master manifold.

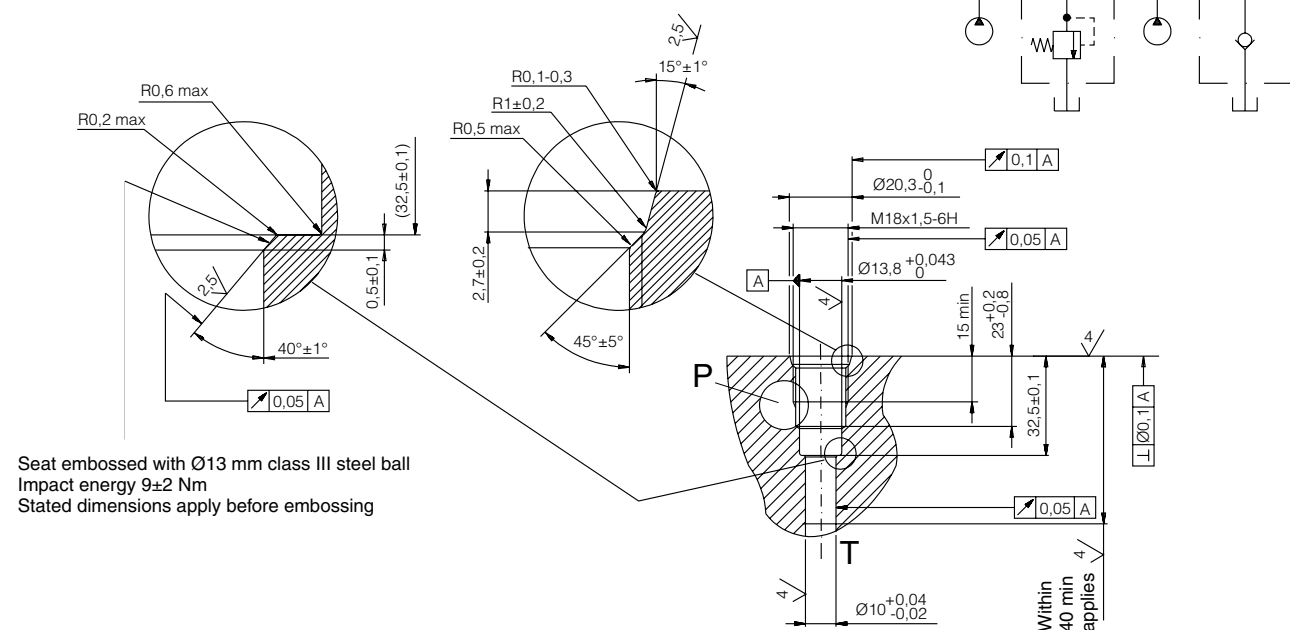
Features and benefits

- Small dimensions - easy to install
- Single unit - facilitates installation
- Very tight - no unnecessary leakage losses
- Good characteristic - small pressure change between different flows
- Good opening and closing characteristics - distinct opening and closing
- Low hysteresis - good precision in pressure maintenance
- Fast acting - reacts quickly to pressure surges
- Setting locked by welding - prevents undesirable changing of pressure setting

Diagram for PLC053 pressure relief valve

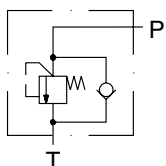


Unless stated otherwise: $\sqrt[6.3]{}$
 Edges broken 0.1-0.5 unless
 indicated otherwise



Cavity drawing, PLC053

Single housing



Hydraulic symbol for single housing

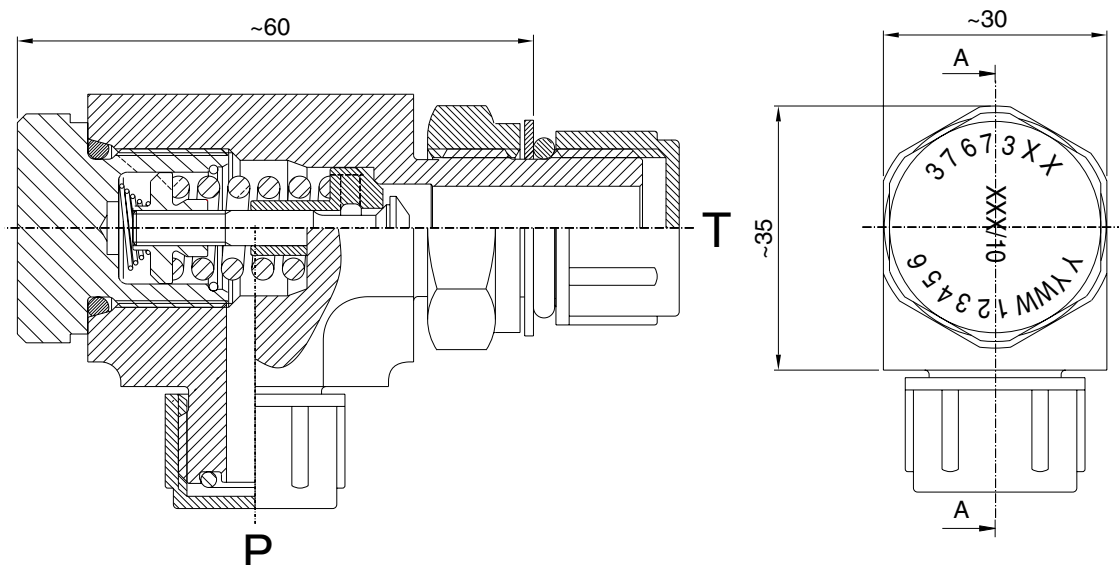
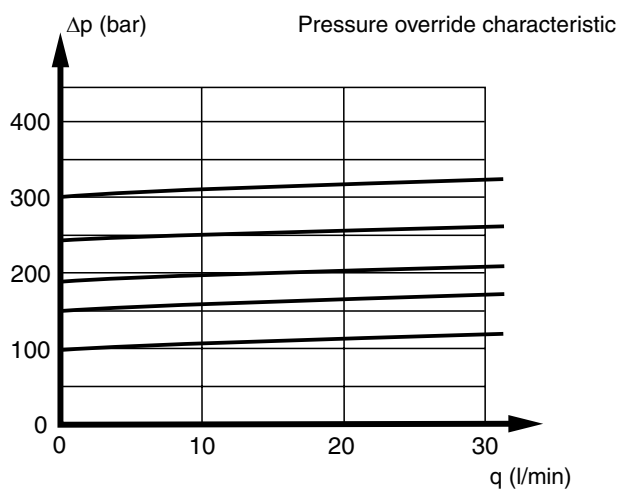


Diagram for PLC053 pressure relief valve



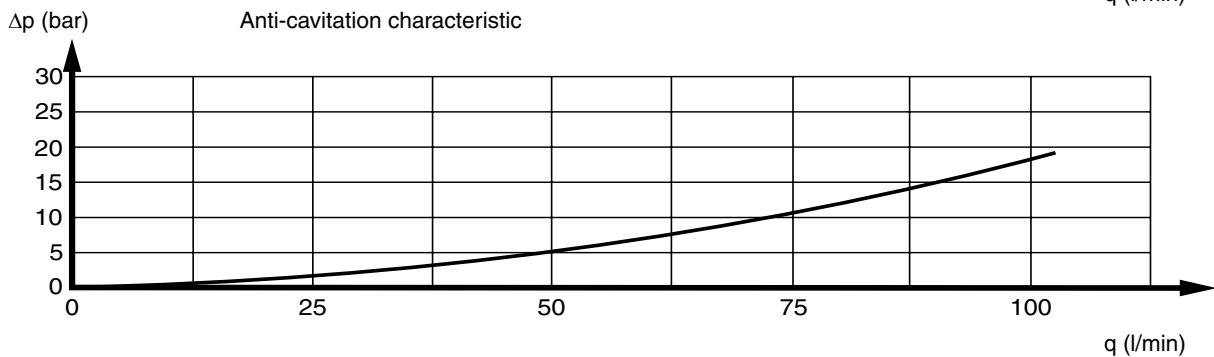
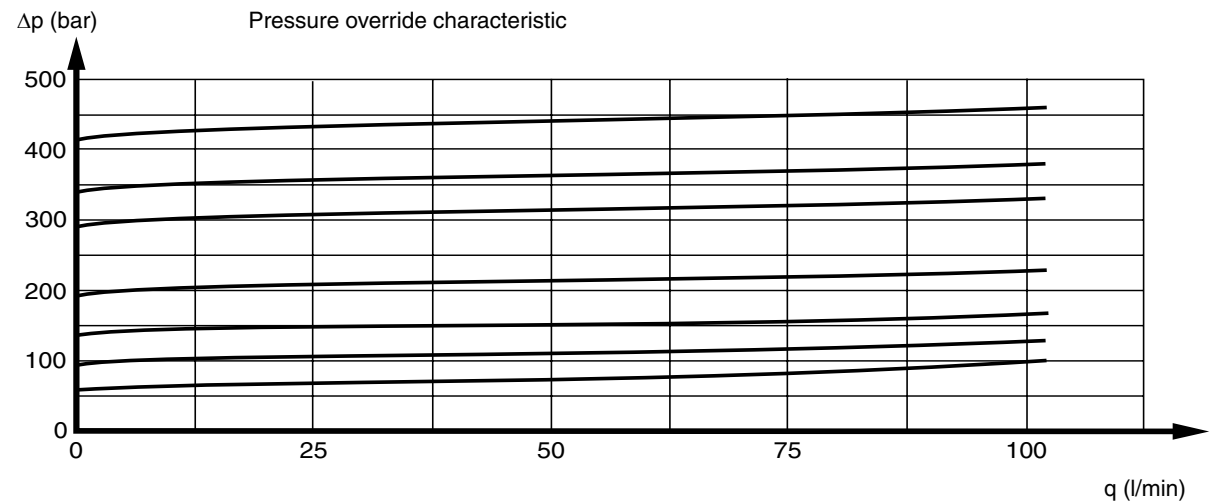
Ordering

PLC053 mounted in single housing

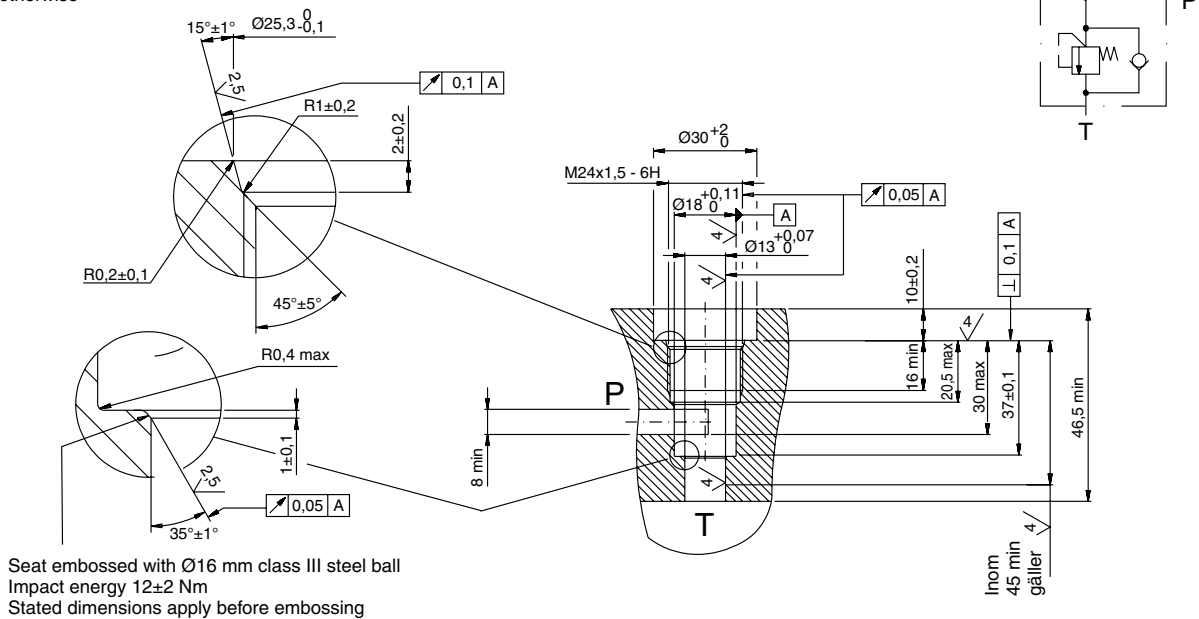
The PLC053 mounted in a single housing can be ordered using the ordering numbers below. Should you require a pressure setting not listed in the table, please contact your Parker Hannifin representative.

Pressure [bar]	Ordering No
50	3767317
63	3767318
80	3767319
100	3767320
125	3767321
140	3767322
160	3767323
175	3767324
190	3767325
210	3767326
230	3767327
240	3767328
250	3767329
260	3767330
270	3767331
280	3767332

Diagram for PLC082 pressure relief valves

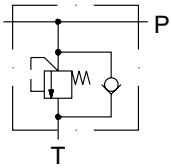
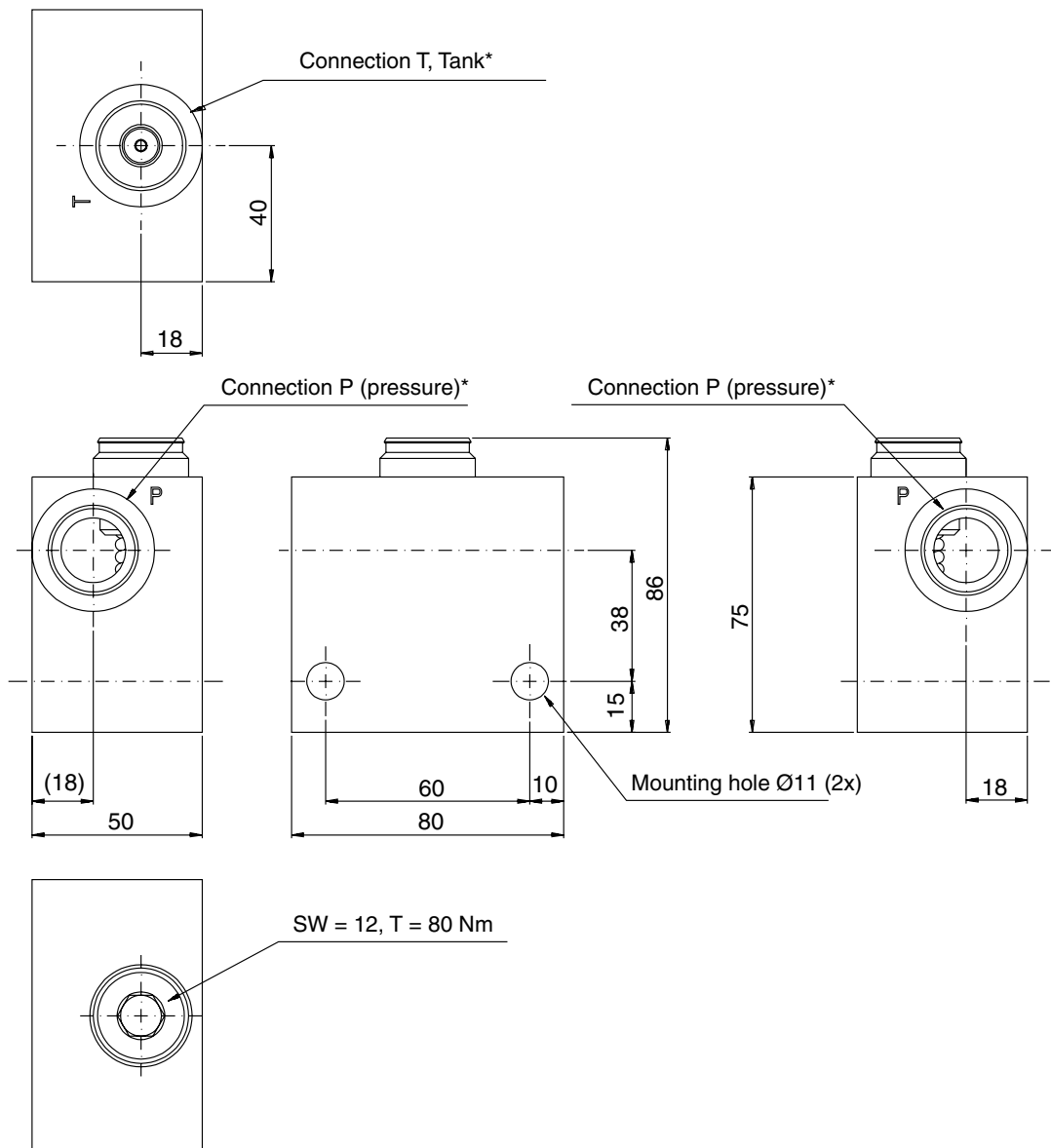


Unless stated otherwise:
Edges broken 0.1-0.5 unless
indicated otherwise



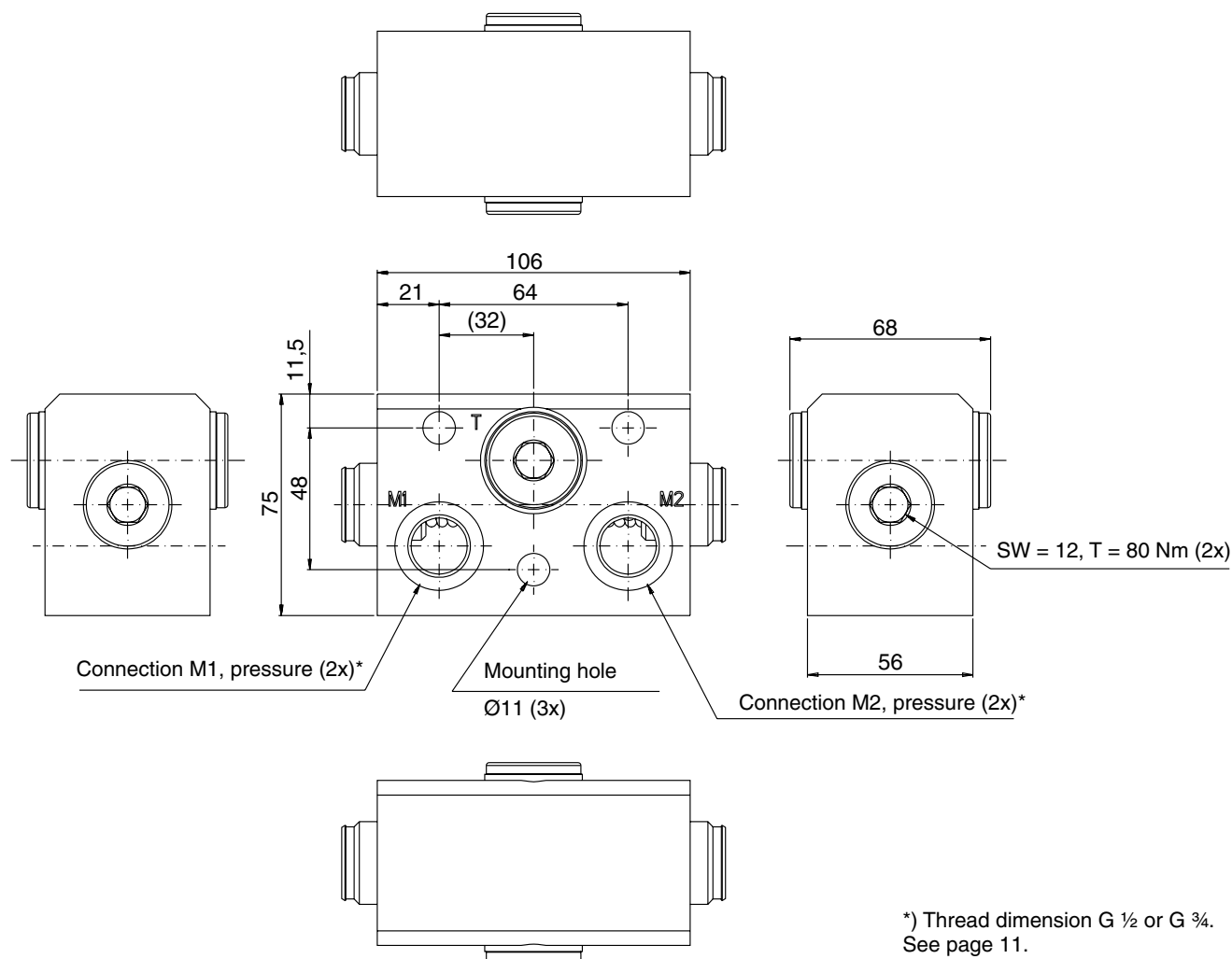
Machining tools can be purchased from Parker Hannifin.

Cavity drawing, PLC082

Single housing*Hydraulic symbol for single housing*

*) Thread dimension G ½ or G ¾.
See page 11.

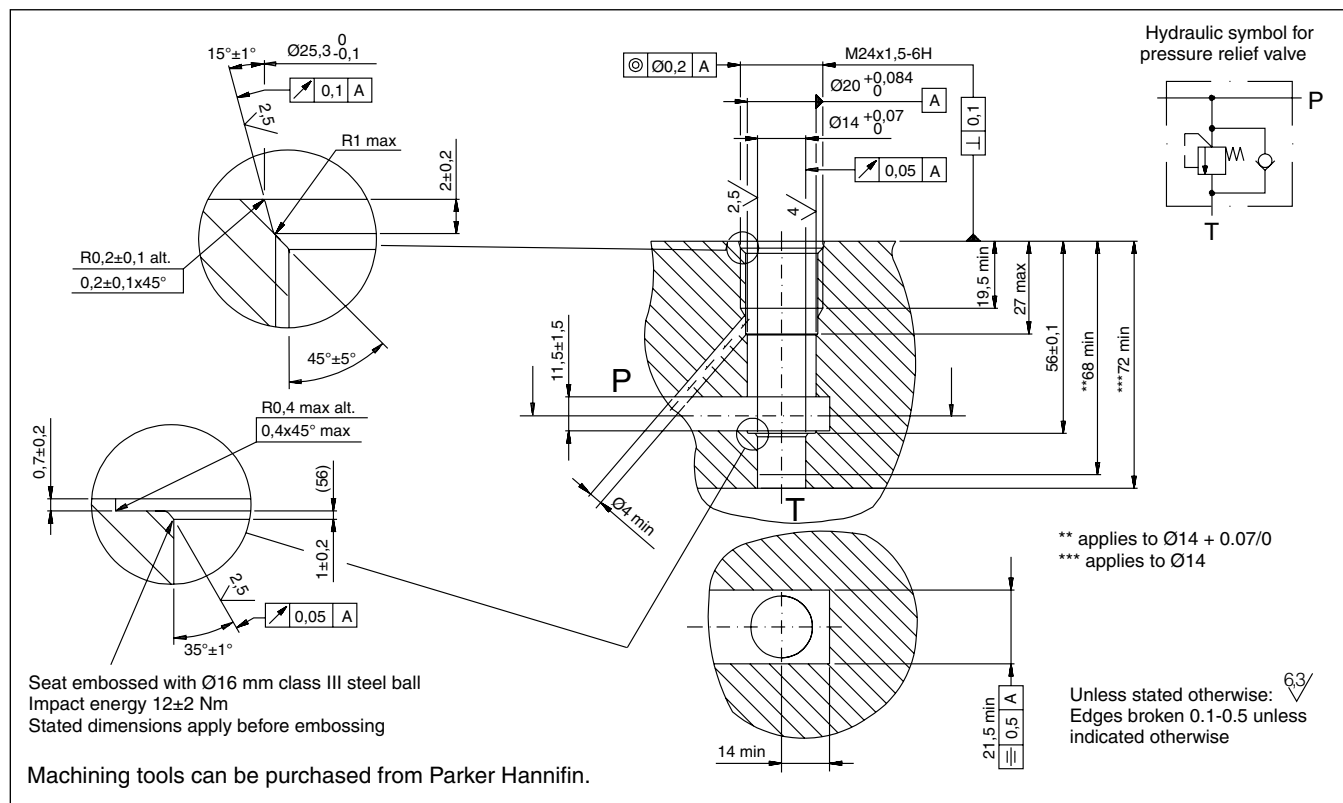
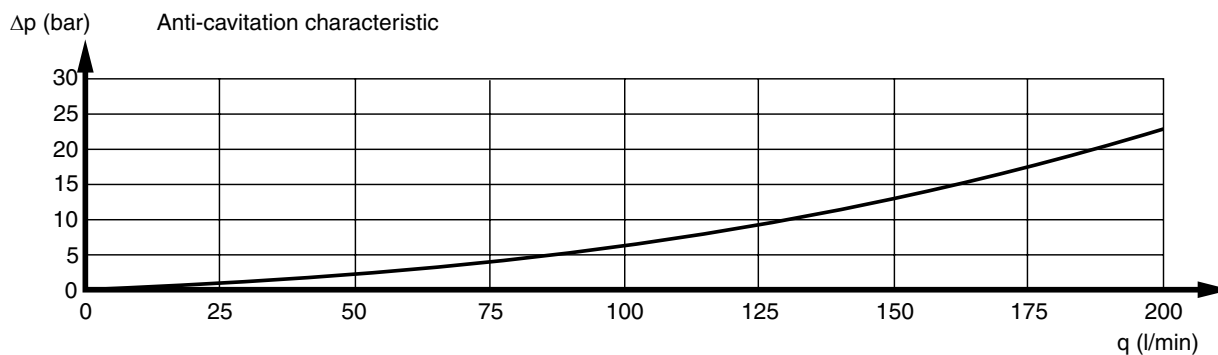
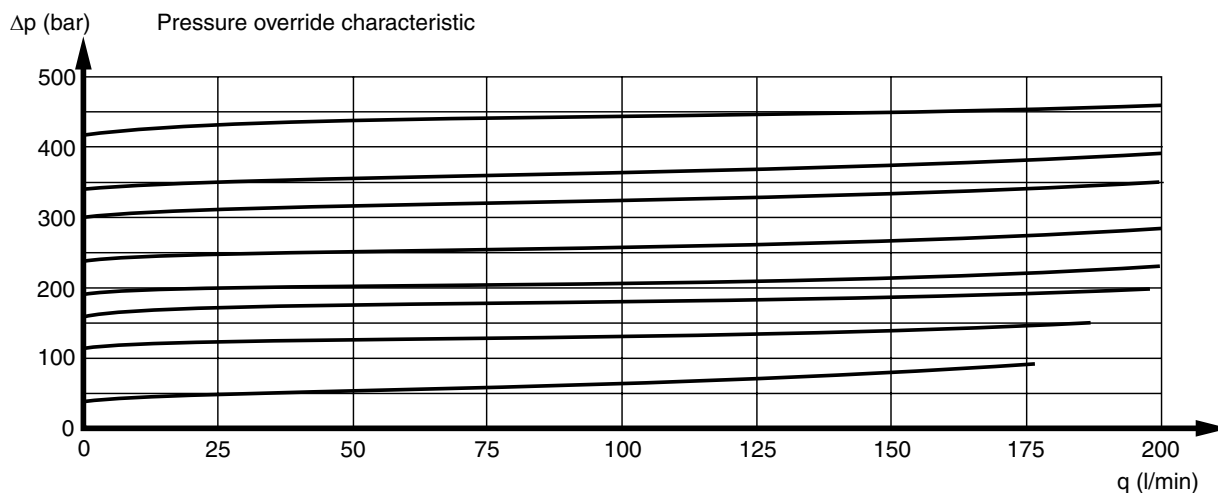
SW = spanner width
T = tightening torque



*) Thread dimension G 1/2 or G 3/4.
See page 11.

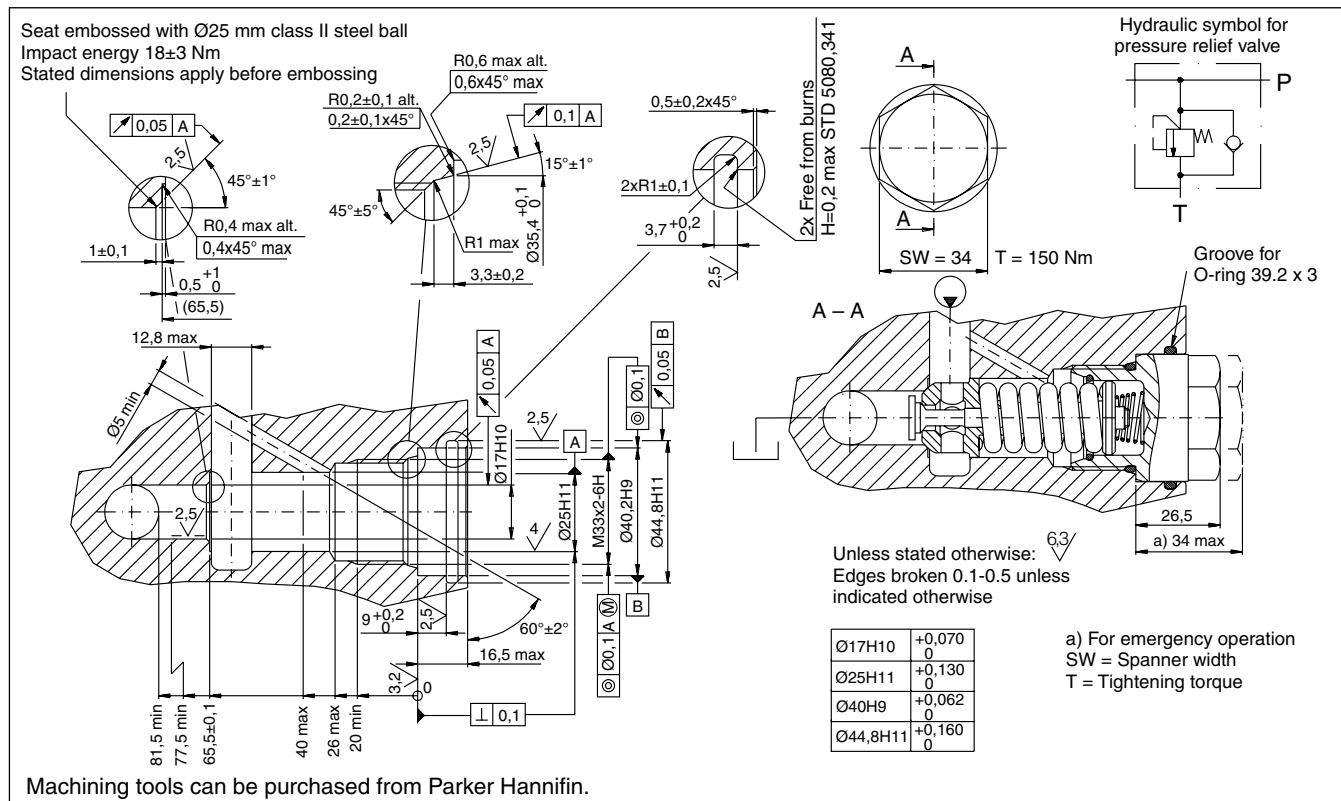
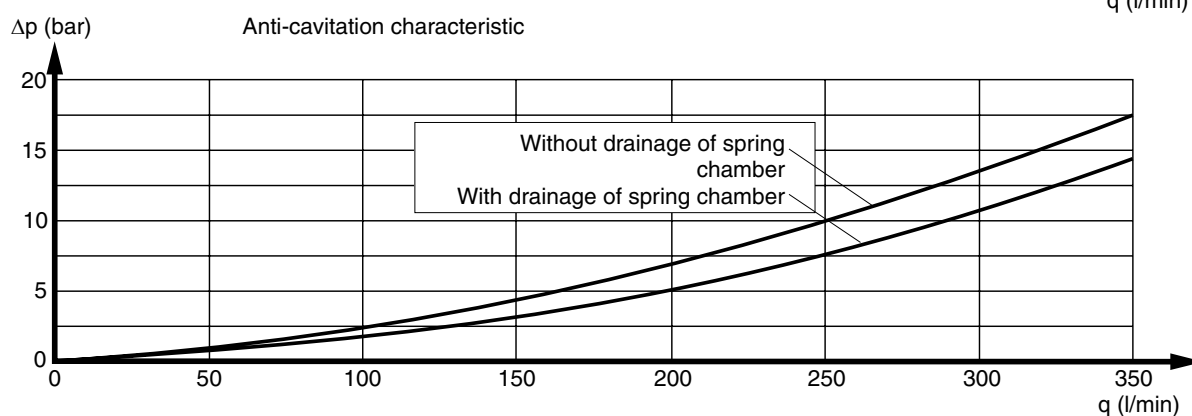
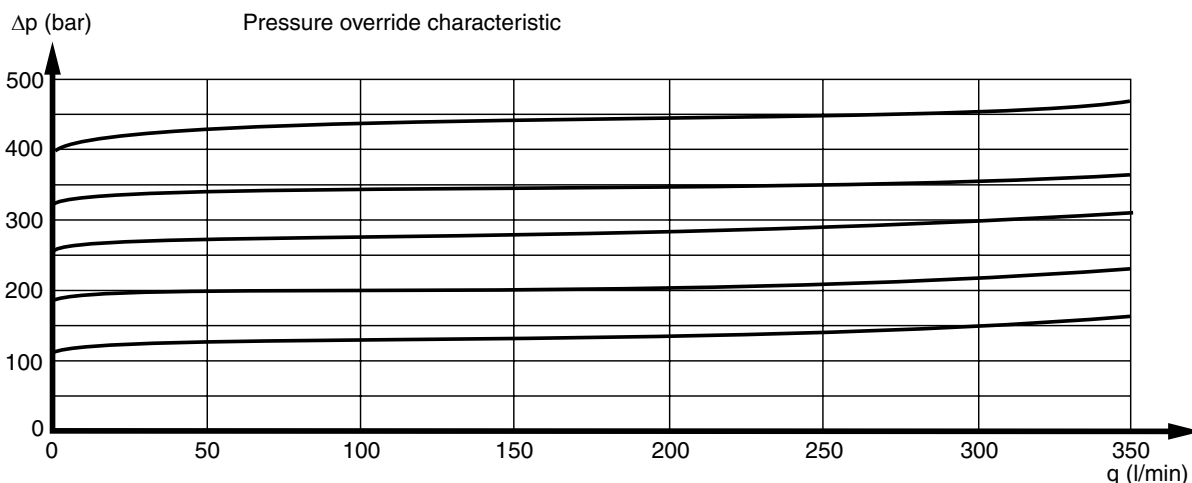
SW = spanner width
T = tightening torque

Diagram for PLC182 pressure relief valves



Cavity drawing, PLC182

Diagram for PLC280 pressure relief valve



Cavity drawing, PLC280

Ordering**PLC series**

PLC-series pressure relief valves can be ordered using the ordering numbers in the table below.

Should you require a pressure setting not listed in the table, or require the pressure setting to be made at a flow different to standard, please contact your Parker Hannifin representative.

Pressure PLC053 [bar]		PLC082	PLC182	PLC280 with plug
40	—	9120 0291 03	9120 0292 50	—
50	393000K176	9120 0291 04	9120 0292 51	—
63	393000K177	9120 0291 05	9120 0292 52	—
80	393000K178	9120 0291 06	9120 0292 53	—
100	393000K179	9120 0291 07	9120 0292 54	—
125	393000K180	9120 0291 08	9120 0292 55	—
140	393000K181	9120 0291 09	9120 0292 56	—
160	393000K182	9120 0291 10	9120 0292 57	—
175	393000K183	9120 0291 11	9120 0292 58	—
190	393000K184	9120 0291 12	9120 0292 59	—
210	393000K185	9120 0291 13	9120 0292 60	—
230	393000K186	9120 0291 14	9120 0292 61	20006727
250	393000K187	9120 0291 15	9120 0292 62	20004981
280	393000K189	9120 0291 16	9120 0292 63	20007439
290		9120 0291 49		
300	393000K190	9120 0291 17	9120 0292 64	20005798
330	393000K191	9120 0291 18	9120 0292 65	—
350	393000K192	9120 0291 19	9120 0292 66	20000990
380	393000W018	9120 0291 20	9120 0292 67	20006115
400	—	9120 0291 21	9120 0292 68	—
420	393000U020	9120 0291 22	9120 0292 69	00153491
N*	393000K194	9120099686	—	—

* Anti-cavitation valve without pressure-relief function

PLC082 mounted in single housing

The PLC082 mounted in a single housing can be ordered using the ordering numbers below. Should you require a pressure setting not listed in the table, please contact your Parker Hannifin representative.

Pressure [bar]	G1/2	G3/4
50	3766780	3766789
125	3766781	—
160	3766782	—
175	3766783	—
190	3766784	3766903
210	3766785	3766904
230	3766786	3766862

PLC082 mounted in double housing

Pressure [bar]	G1/2	G3/4
140	3766767	—
160	3766769	3766777
175	3766770	—
190	3766771	—
210	3766772	—
230	3766773	3766900
250	—	3766901
280	—	3766873

Parker Worldwide

Europe, Middle East, Africa

AE – United Arab Emirates, Dubai
Tel: +971 4 8127100
parker.me@parker.com

AT – Austria, Wiener Neustadt
Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt
Tel: +43 (0)2622 23501 900
parker.easteurope@parker.com

AZ – Azerbaijan, Baku
Tel: +994 50 2233 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles
Tel: +32 (0)67 280 900
parker.belgium@parker.com

BY – Belarus, Minsk
Tel: +375 17 209 9399
parker.belarus@parker.com

CH – Switzerland, Etoy
Tel: +41 (0)21 821 87 00
parker.switzerland@parker.com

CZ – Czech Republic, Klecany
Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst
Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup
Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid
Tel: +34 902 330 001
parker.spain@parker.com

FI – Finland, Vantaa
Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve
Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Athens
Tel: +30 210 933 6450
parker.greece@parker.com

HU – Hungary, Budapest
Tel: +36 1 220 4155
parker.hungary@parker.com

IE – Ireland, Dublin
Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IT – Italy, Corsico (MI)
Tel: +39 02 45 19 21
parker.italy@parker.com

KZ – Kazakhstan, Almaty
Tel: +7 7272 505 800
parker.easteurope@parker.com

NL – The Netherlands, Oldenzaal
Tel: +31 (0)541 585 000
parker.nl@parker.com

NO – Norway, Asker
Tel: +47 66 75 34 00
parker.norway@parker.com

PL – Poland, Warsaw
Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal, Leca da Palmeira
Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest
Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow
Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Spånga
Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SK – Slovakia, Banská Bystrica
Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto
Tel: +386 7 337 6650
parker.slovenia@parker.com

TR – Turkey, Istanbul
Tel: +90 216 4997081
parker.turkey@parker.com

UA – Ukraine, Kiev
Tel: +380 44 494 2731
parker.ukraine@parker.com

UK – United Kingdom, Warwick
Tel: +44 (0)1926 317 878
parker.uk@parker.com

ZA – South Africa, Kempton Park
Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

North America

CA – Canada, Milton, Ontario
Tel: +1 905 693 3000

US – USA, Cleveland (industrial)
Tel: +1 216 896 3000

US – USA, Elk Grove Village (mobile)
Tel: +1 847 258 6200

Asia Pacific

AU – Australia, Castle Hill
Tel: +61 (0)2-9634 7777

CN – China, Shanghai
Tel: +86 21 2899 5000

HK – Hong Kong
Tel: +852 2428 8008

IN – India, Mumbai
Tel: +91 22 6513 7081-85

JP – Japan, Fujisawa
Tel: +81 (0)4 6635 3050

KR – South Korea, Seoul
Tel: +82 2 559 0400

MY – Malaysia, Shah Alam
Tel: +60 3 7849 0800

NZ – New Zealand, Mt Wellington
Tel: +64 9 574 1744

SG – Singapore
Tel: +65 6887 6300

TH – Thailand, Bangkok
Tel: +662 717 8140

TW – Taiwan, Taipei
Tel: +886 2 2298 8987

South America

AR – Argentina, Buenos Aires
Tel: +54 3327 44 4129

BR – Brazil, Cachoeirinha RS
Tel: +55 51 3470 9144

CL – Chile, Santiago
Tel: +56 2 623 1216

MX – Mexico, Apodaca
Tel: +52 81 8156 6000

EMEA Product Information Centre

Free phone: 00 800 27 27 5374

(from AT, BE, CH, CZ, DE, DK, EE, ES, FI, FR, IE, IL, IS, IT, LU, MT, NL, NO, PL, PT, RU, SE, SK, UK, ZA)

US Product Information Centre

Toll-free number: 1-800-27 27 537

www.parker.com

Your local authorized Parker distributor

