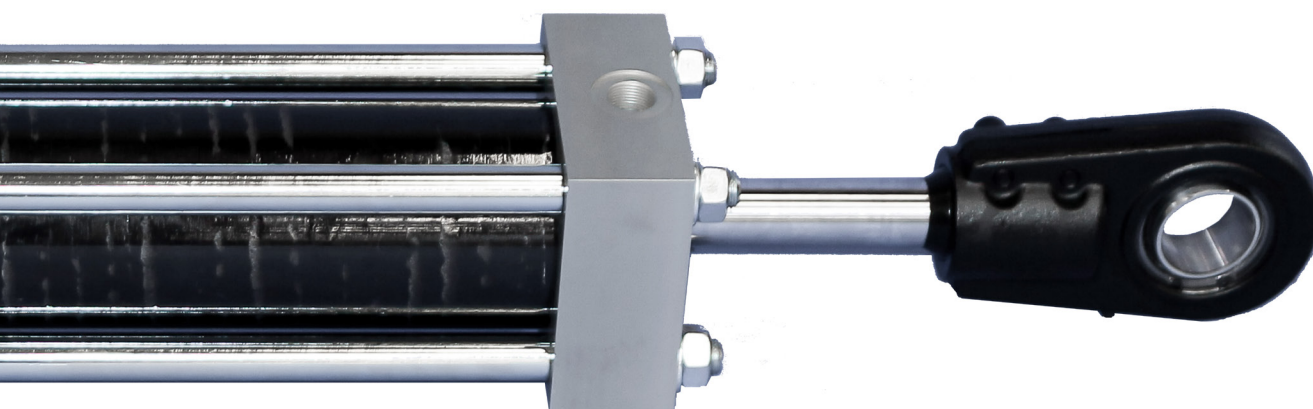
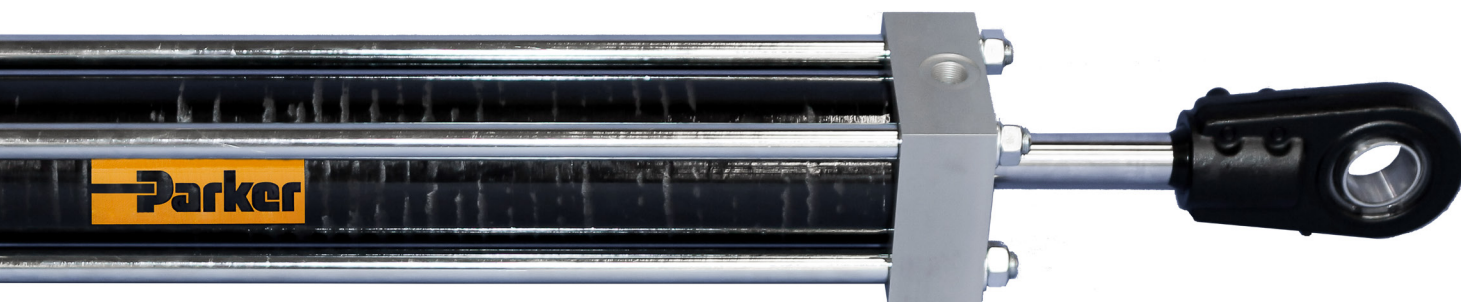
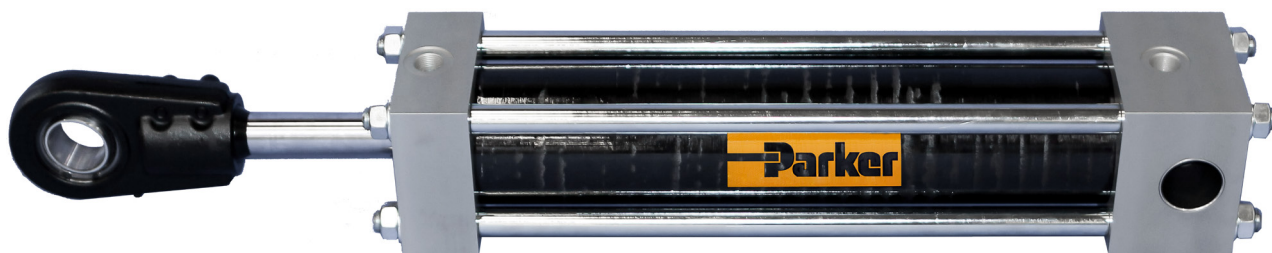




Lightraulics® T-Series Cylinders

For 380 bar working pressure



ENGINEERING YOUR SUCCESS.

Lightraulics® T-Series Cylinders

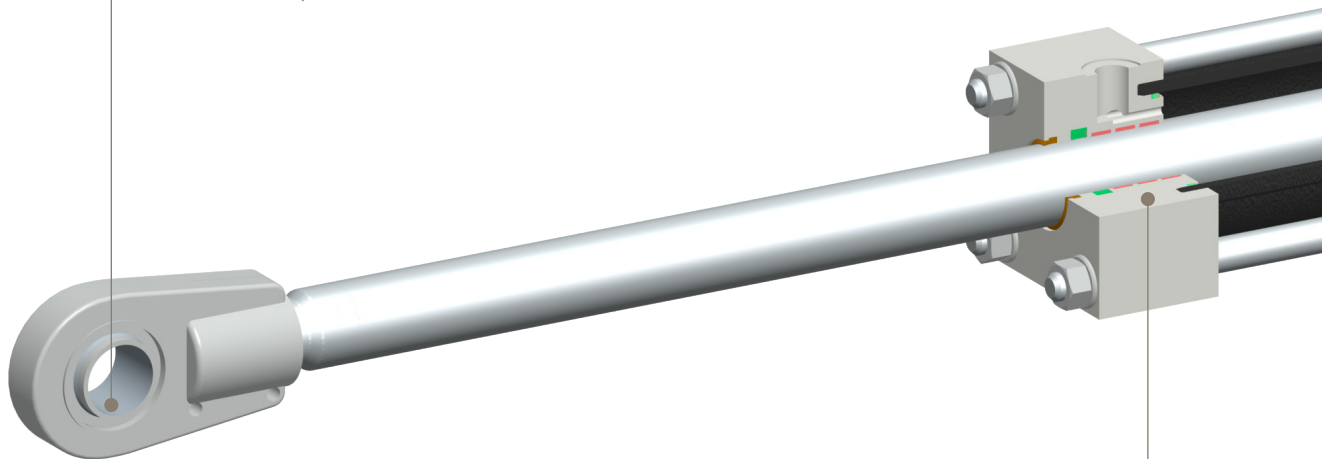
With Parker's Lightraulics® T-Series composite cylinders a pure composite barrel is combined with tie rods, resulting in weight savings up to 50% compared to standard steel designs.

Optimised tie rod lightweight solution

T-Series composite cylinders are equipped with a fully composite barrel to maximise the product's weight saving potential. Parker's Lightraulics® composite barrel acts as a diffusion barrier for sealing and carries the hoop loads, unlike in conventional composite designs, where a metal liner is needed to fulfill these functions.

▼ Spherical bearing

Standard cylinders feature a spherical bearing at the piston rod. Custom mounting styles are available on request.



Lightweight guiding end ▲ cap and seals

The cylinder gland is machined from high grade aluminium alloy and surface treated to resist corrosion, to deliver high performance under hostile conditions.



▼ Tie rods

The T-Series lightweight cylinders are equipped with surface treated steel tie rods to carry the axial loads.

▼ Lightweight base end cap

The one-piece cylinder cap is machined from high grade aluminium alloy for superior fatigue performance under high working loads. All aluminium parts are surface treated to resist corrosion, even in aggressive environments. Standard cylinders feature pivot bearings at the base end cap.

▲ Composite barrel

The lightweight pure composite barrel acts as a diffusion barrier and carries the hoop loads. The high inner surface finish significantly reduces seal wear, ensuring a long and productive service life.

▲ Lightweight piston and rod

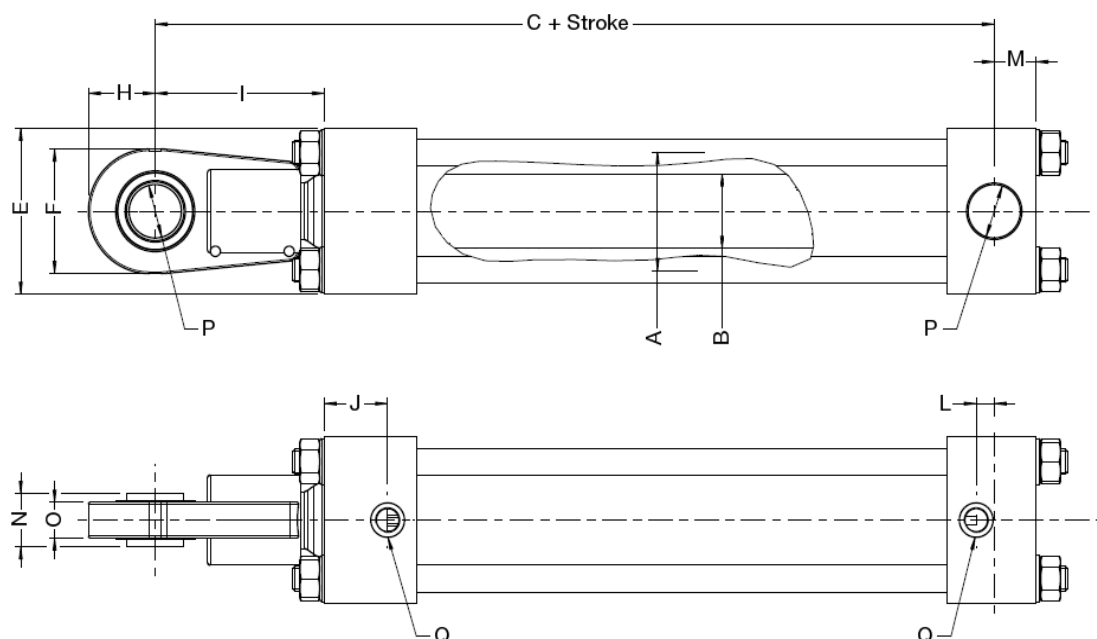
The low inertia aluminium piston permits rapid cycle times. Wide bearing rings provide stability and resist wear, ensuring long life and high productivity. For larger piston rod diameters, a hollowed out rod design can be chosen to minimise the moving mass.

Product Specifications

Working pressure	380 bar (5500 psi)
Test pressure	570 bar (8250 psi)
Stroke length	standard – up to 3000 mm
Rated fatigue life	250,000 cycles at 380 bar, tested for 500,000 cycles at 380 bar
Maximum piston speed	0.3 m/s
Barrel material	carbon fibre reinforced composite
Piston material	aluminium
Piston rod material	hard chrome plated steel
Tie rod material	galvanised steel
Mountings	spherical bearings on piston rod, pivot bearing on base end cap, other mounting styles available to order
Sealing system	
– piston seal	thermoplastic polyester elastomer
– rod seal	polyurethane lip type
– wiper seal	polyester-based
– O-rings	polyurethane (PU)
Temperature range	-20 °C to +80 °C
Fluid medium	mineral hydraulic oil

For customised specifications, please contact lightraulics@parker.com with details of your application.

Specifying Your Cylinder



Dimensions

A Bore Ø	B Rod Ø	C	E Ø	F	H	I	J	L	M	N	O	P Ø	Q (BSPP)
80	36	362	120	94	50	120	25	9	43	40	33	40	G ³ / ₄
100	36 56	451 448	147	116	63	161 157	25 53	15	57	50	36	50	G ³ / ₄
125	56 70	493 501	176	130	70	188 189	45 64	16	65	60	46	60	G1
160	63 100	620 576	219	176	95	251 266	62 94	29	93	80	55	80	G1
180	90 125	663 646	248	210	115	273.5 283.5	84 113	35	107	90	60	90	G1
200	125	644	280	210	115	288	109	31	103	90	60	90	G1 ¹ / ₄

Performance

A Bore Ø	B Rod Ø	Rod type	Max. allowed force (kN)		Minimum stroke	Weight at minimum stroke ²⁾ (kg)	Additional weight per 100 mm stroke (kg)
			Compression ¹⁾	Tension			
80	36	solid	191	152	200	17	2
100	36	solid	267	260	200	27	2.7
	56	solid	298	205		33	3.8
	56	hollow	298	205		30	3.2
125	56	solid	437	373	250	51	4.7
	70	solid	466	320		58	5.8
	70	hollow	416	320		53	4.6
160	63	solid	555	646	300	99	6.3
	100	solid	764	466		118	10.0
	100	hollow	764	466		104	7.5
180	90	solid	967	725	300	153	10.0
	125	solid	967	501		178	14.6
	125	hollow	967	501		161	11.5
200	125	solid	1194	727	400	222	16.0
	125	hollow	1194	727		201	12.7

All dimensions are in millimeters unless otherwise stated. In line with our policy of continuous product improvement, specifications in this brochure are subject to change without notice. Please enquire for exact dimensions when placing order.

Please use the order code at the end of this brochure to enquire for a Lightraulics® T-Series Cylinder.

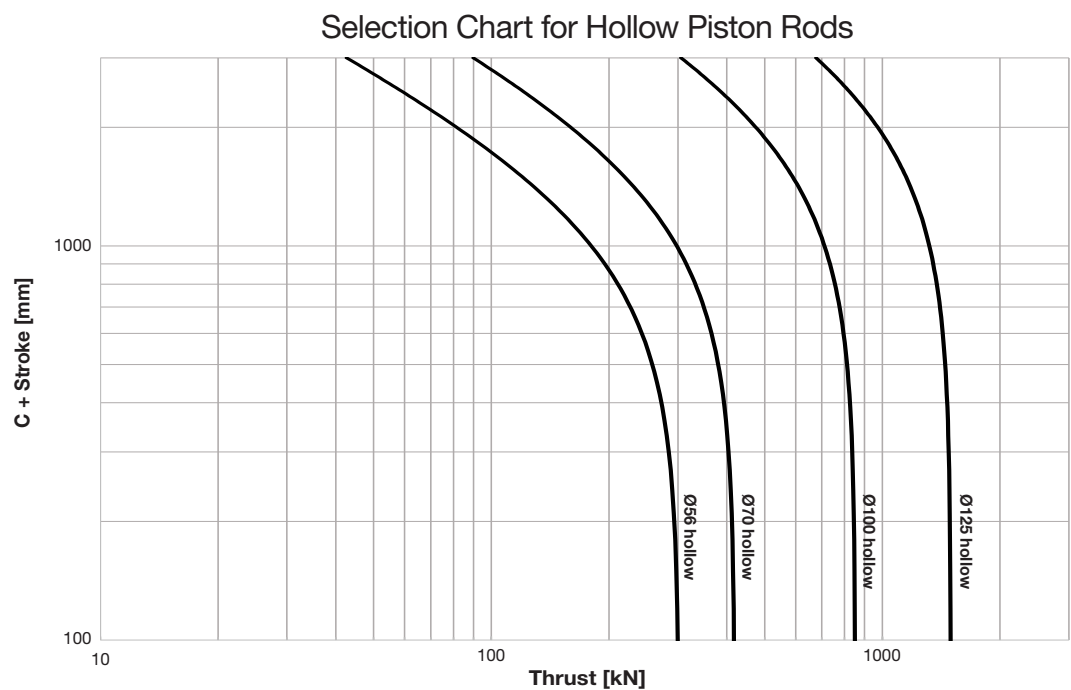
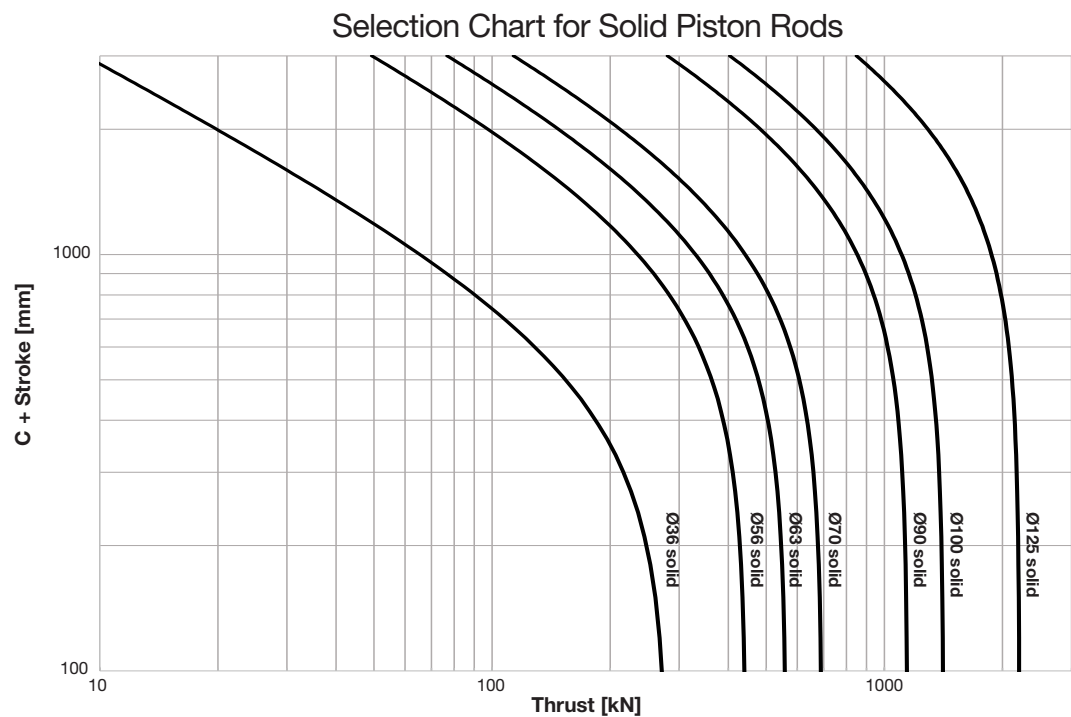
1) For maximum allowed compression force, the piston rod selection charts on the following page need to be considered in addition to the data given in the performance table above.

2) Further weight reduction possible by usage of customised rod eyes.



Piston Rod Selection Charts

To help you to specify the cylinder that fits best to your application, please use the selection charts below for solid and hollow piston rods.

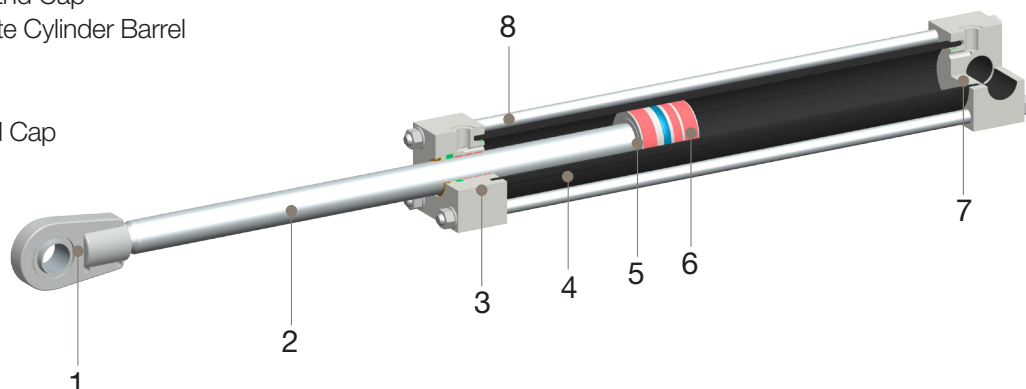


Spare Parts

For all Lightraulics® cylinders, spare parts are available. To keep the warranty in effect, we recommend to send your cylinder to our factory for any maintenance work. If you like to enquire for a spare part for your Lightraulics® T-Series Cylinder, please provide your cylinder serial number together with the type of spare part referring to the list below.

Product Type

- 1 - Rod Eye incl. Bearing
- 2 - Piston Rod
- 3 - Guiding End Cap
- 4 - Composite Cylinder Barrel
- 5 - Piston
- 6 - Seal Kit
- 7 - Base End Cap
- 8 - Tie Rod



Order Code

Please use the following order code to enquire for your Lightraulics® T-Series Cylinder.

L	C	T		380	D									00
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Cylinder Type	
L	Lightraulics®

Product Type	
C	Cylinder

Operating Pressure in bar	
380	380 bar

Rod Type	
H	Hollow
S	Solid

Series Type	
C	C-Series
T	T-Series
A	A-Series
S	S-Series

Piston Ø in mm	
080	80 mm
100	100 mm
125	125 mm
160	160 mm
180	180 mm
200	200 mm

Rod Ø in mm	
036	36 mm
056	56 mm
063	63 mm
070	70 mm
090	90 mm
100	100 mm
125	125 mm

Operation	
D	Double acting

Stroke in mm	
e.g. 0800	800 mm
Stroke up to 3000 mm. For minimum stroke please see p. 13 (C-Series) or p. 17 (T-Series).	

Factory Use	
00	-

For possible piston / rod combinations please see p. 13 (C-Series) or p. 17 (T-Series).

For customized specifications or references, please contact:

Parker Hannifin Manufacturing Germany GmbH & Co. KG

Composite Technologies Europe CTE

Carl-Zeiss-Str. 38, D-28816 Stuhr

+ 49 (0)421 56 98-200

lightraulics@parker.com



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 22 33 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles

Tel: +32 (0)67 280 900
parker.belgium@parker.com

BG – Bulgaria, Sofia

Tel: +359 2 980 1344
parker.bulgaria@parker.com

BY – Belarus, Minsk

Tel: +48 (0)22 573 24 00
parker.poland@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, Budaoers

Tel: +36 23 885 470
parker.hungary@parker.com

IE – Ireland, Dublin

Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IL – Israel

Tel: +39 02 45 19 21
parker.israel@parker.com

IT – Italy, Corsico (MI)

Tel: +39 02 45 19 21
parker.italy@parker.com

KZ – Kazakhstan, Almaty

Tel: +7 7273 561 000
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

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: +48 (0)22 573 24 00
parker.poland@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

ID – Indonesia, Tangerang

Tel: +62 21 7588 1906

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: +662 186 7000

TW – Taiwan, New Taipei City

Tel: +886 2 2298 8987

VN – Vietnam, Ho Chi Minh City

Tel: +84 8 3999 1600

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, Toluca

Tel: +52 72 2275 4200

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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

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