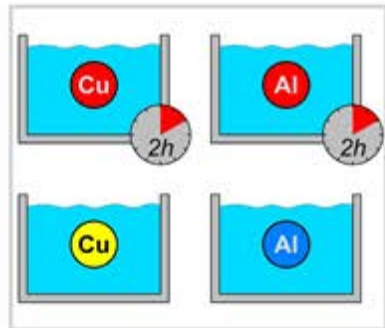


CO₂ Laser Consumables

**CUT
COST**
NOT LASER QUALITY.

2017 Richardson Electronics CO₂ & Fiber Laser Consumables Catalog



Replacement Parts for TRUMPF® Lasers

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Rev 9

Richardson Electronics is a global distributor of RF tubes (power grid tubes) and consumables used in CO₂ industrial lasers. With over 60 years of experience and 45 sales offices and stocking locations around the world, we provide the highest standard of quality and service. Our commitment to providing the best products to meet our customers' needs is second to none.

We stock critical components for laser systems and provide expert assistance in selecting replacement products and alternatives.

Richardson Electronics is a world leading supplier of CO₂ laser consumables. We have an extensive global supply network which helps us maintain a large inventory of replacement parts for CO₂ laser machines from the industry's leading manufacturers.

All of Richardson Electronics' CO₂ laser consumables are manufactured to the highest standards of quality and performance that meet, or exceed the OEM's original specifications. Our replacement parts for TRUMPF®, Bystronic® and other major manufacturer's lasers, deliver the same level of performance as OEM parts, but are a far more cost effective alternative.

Contact Richardson Electronics today for more information, or request a quote for your CO₂ laser replacement parts.

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Richardson Electronics is the world's leading supplier of replacement RF power tubes for lasers. We offer the highest quality tubes available including the original Thales made RS3021CJ, RS2048CJC and RS2088CJC used in Trumpf CO₂ laser systems. In addition, we offer the anode kits and replacement sockets for both the RS3021CJ and RS2048CJC.

The superior quality of our Thales replacement RF power tubes, our broad selection, and our competitive prices make Richardson Electronics the number one aftermarket RF tube supplier in the world. Contact Richardson Electronics today to learn more, or request a quote for the RF power tube that your laser system needs.

Did you know that pyrolytic graphite grids provide the highest reliability and the longest life?
Did you also know that the Thales RS2048CJC is the only tube in the market that uses this technology? **Accept nothing less than the best for your laser, insist on Thales!**



RS2048CJC



RS3021CJ



ROEKG248K



ROEKG321G

Did you know that when you replace a tube, it is a good practice to inspect the fingers of the socket contacts, to ensure they are not bent, burned, corroded or have any type of damage that can cause arching that will result in shorter tube life?

Trumpf No.	Order No.	DESCRIPTION	Price
0120730, 1290700, 1347276, 1582540, 1800928 1800961, 1800985, 1801047, 1803428	RS3021CJ	RF End Stage Tube	Call
0932468, 1237260, 1237228, 1237398, 1296799, 1582457, 1800986, 1811787, 1812660	RS2048CJC	RF End Stage Tube	
1390594, 1438766	RS2088CJC	RF End Stage Tube	
0911332	ROEKG248K	Socket for End Stage tube type RS2048CJC	
1201187, 1548071	ROEKG321G	Socket for End Stage tube type RS3021CJ	

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Do you need help in getting a tube installed? Give us a call and we'll arrange to have it installed for you!

End Stage Tube Accessories



Part No. AX2048CJ-KIT Sacrificial anode water connection kit for the RS2048CJC end stage tube.

Part No. AX3021CJ-KIT Sacrificial anode water connection kit for the RS3021CJ end stage tube.



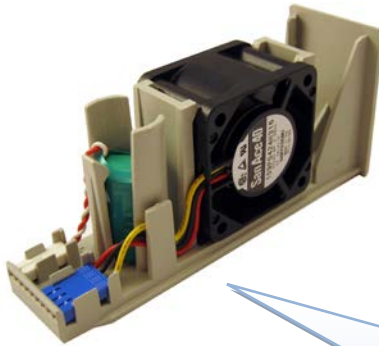
Part No. TUBE-EXTRACTOR End Stage tube extraction tool, works on the RS2048CJC and RS3021CJ. Direct replacement for **Trumpf's part no. 0925091** (includes the guide pins **Trumpf's part no. 1520715**)



Did you know that accidentally hitting the tubes grid contact(s) into the anode contact of the socket assembly can cause your tube to fail? Using a tube extraction tool minimizes this risk, by safely releasing the tube from the socket and keeping it aligned during the removal and insertion process.

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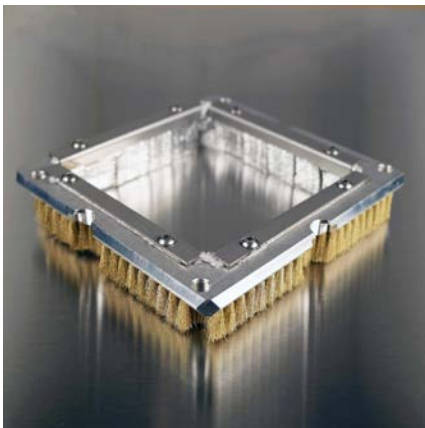
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Part No. RST881/FAN/BATT Fan Battery Assembly –
Used in the Siemens NCU 840D (control module).
Trumpf's part no. 0146881

Did you know that that it is recommended that this fan battery assembly be replaced every three years? When was the last time you changed yours?

Part No. RST837/FAN/BATT Fan Battery Assembly –
Used in the Siemens NCU 7X0 or D445-1 (control modules).
Trumpf's part no. 0385837



Part No. RUT202/BRUSH Protection brush for
laser/punch combo units. - **Trumpf's part no. 0353202**

Hyco Vacuum Pumps



We are now offering replacement Hyco vacuum pumps for Trumpf® CO₂ laser systems. These are direct drop in replacements. We offer both the original hardwire version and the newer plug version.

We understand your uptime requirements, strive to provide excellent customer service and will offer you the highest quality components that you and your TRUMPF® laser deserve – all at competitive prices.

Trumpf No.	Order No.	DESCRIPTION	Price
0149023, 0352561, 0946052, 0941996	RPT203/PUMP	Hyco Vacuum Pump (Hard Wire)	Call
1363752, 1363753	RPT752/PUMP	Hyco Vacuum Pump (With 4 Pole Receptacle Connector)	



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Drive Stage Repair

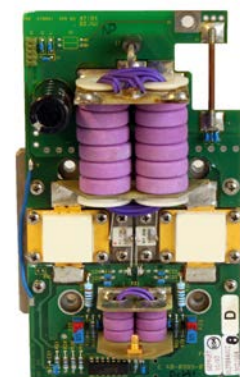


CO₂ Laser Driver Stage

As a division of Richardson Electronics, our experts at Powerlink have the knowledge, experience and test equipment to perform a 38-step process of full diagnostics, repair and 24-hour final operation test, to bring driver stages back to life at original factory specifications. We keep units in stock for swap, so you don't lose any valuable downtime -at a fraction of purchasing a new unit.

Nothing to lose and everything to gain!

Do you have a defective driver stage lying around collecting dust? Why not turn that defective driver stage into a working spare or a core credit you can use towards the purchase of a NEW RF tube or consumables of your choice? CALL US TODAY for details on how you can turn that old driver stage into consumables that you really need!



RF Amplifier Pallet

Trumpf No.	Power Output	Frequency	Order No.
1304812, 1422185	450W	13.56 Mhz	RDS450W13-R
0087597, 0102687	600W	13.56 Mhz	Discontinued - Alternative type = RDS1KW13-R
0954356, 0990818, 1286829, 1288251, 1544591, 1544595	650W	13.56 Mhz	RDS650W13-R
1313254, 1392849, 1726682, 1760569, 1829407	650W Class "E"	13.56 Mhz	RDS650W13E-R
0131606, 0149214, 1286827, 1288252, 1597793, 1633973	1000W	13.56 Mhz	RDS1KW13-R
1258223, 1368226, 1726681, 1746606	1000W Class "E"	13.56 Mhz	RDS1KW13E-R
0102130, 0102654	1200W	13.56 Mhz	Discontinued - Alternative type = RDS1KW13-R
0139823, 0342740, 1286828, 1288256, 1597794, 1633972	2000W	13.56 Mhz	RDS2KW13-R
1303885, 1383930, 1726678, 1746609	2000W Class "E"	13.56 Mhz	RDS2KW13E-R
0920105, 1293759, 1323934	1000W	27.12 Mhz	RDS1KW27-R
1391564, 1726679	1200W Class "E"	27.12 Mhz	RDS1.2KW27E-R



Powerlink is a division of Richardson Electronics, Ltd, that specializes in the repair of satellite communication equipment and industrial RF amplifiers.

Visit their web site at www.powerlink-ltd.com

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Consumables for Trumpf® Fiber Lasers

Richardson has been providing products to the CO₂ laser for more than 25 years now and we are pleased to announce the expansion of our laser product offerings with the addition of consumable products for fiber lasers. Below are a list of the most commonly used items. We look forward to being your supplier of choice for all of your fiber laser consumable needs.

Nozzles & Nozzle Holders

Trumpf No.	Order No.	DESCRIPTION (Sold in packages of 10)
1324858	RNT060/08	Nozzle EAA ø 0.8 mm
1324860	RNT061/10	Nozzle EAA ø 1.0 mm
1324861	RNT062/12	Nozzle EAA ø 1.2 mm
1324863	RNT063/14	Nozzle EAA ø 1.4 mm
1324864	RNT064/17	Nozzle EAA ø 1.7 mm
1324865	RNT065/20	Nozzle EAA ø 2.0 mm
1324866	RNT066/23	Nozzle EAA ø 2.3 mm
1324867	RNT067/27	Nozzle EAA ø 2.7 mm
1373324	RNT070/08	Nozzle EAB ø 0.8 mm
1373325	RNT071/10	Nozzle EAB ø 1.0 mm
1373326	RNT072/12	Nozzle EAB ø 1.2 mm
1373327	RNT073/14	Nozzle EAB ø 1.4 mm
1373328	RNT074/17	Nozzle EAB ø 1.7 mm
1373329	RNT075/20	Nozzle EAB ø 2.0 mm
1373330	RNT076/23	Nozzle EAB ø 2.3 mm
1373331	RNT077/27	Nozzle EAB ø 2.7 mm
1349171	RHT112/H	Nozzle Holder (Sold individually)
Trumpf No.	Order No.	DESCRIPTION (Sold in packages of 10)
0124561	RNT150/08	Nozzle ECE ø 0.8 mm (0237499)
0124562	RNT151/10	Nozzle ECE ø 1.0 mm
0966809	RNT148/12	Nozzle ECE ø 1.2 mm
0237497	RNT152/14	Nozzle ECE ø 1.4 mm
0237500	RNT153/15	Nozzle ECE ø 1.5 mm
0237501	RNT154/17	Nozzle ECE ø 1.7 mm
1253211	RNT155/20	Nozzle ECE ø 2.0 mm (0237502 & 0237503)
0126933	RNT158/23	Nozzle ECE ø 2.3 mm
0942742	RNT149/27	Nozzle ECE ø 2.7 mm
0260432	RHT109/H	Nozzle HOLDER "Ceramic" (Sold individually)
0955826	RTT162/TCB	Teflon Cover DIAS III, Black

Continued.....

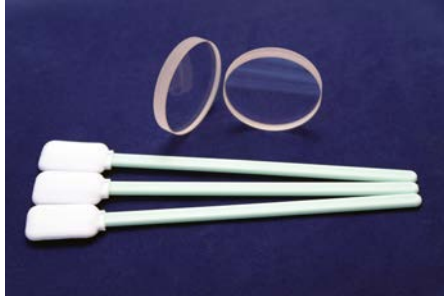
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Consumables for Trumpf® Fiber Lasers

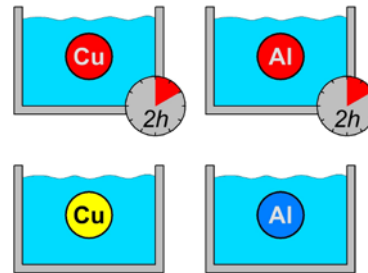
Protective Lens Covers & Cleaning Swabs



Trumpf No.	Order No.	DESCRIPTION
1614767	RLT120/PLC-FIBR	34 Dia. x 5mm Thick, Fused Silica Window
0759720	RLT122/55D1.5T	55 Dia. x 1.5mm Thick, Fused Silica Window
0766719	RLT128/30D5T	30 Dia. X 5mm Thick, Fused Silica Window
0798142	RLT122/55D1.5T	55 Dia. x 1.5mm Thick, Fused Silica Window
1222024	RLT024/LNSTICK	Knit Polyester Cleaning Swabs (100/pack)



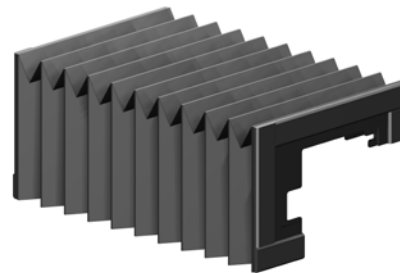
Dust Collection Filters – See page 29



Water Treatment Kits – See page 31



Water Cartridge Filters – See page 30



Rail Bellows – CALL us

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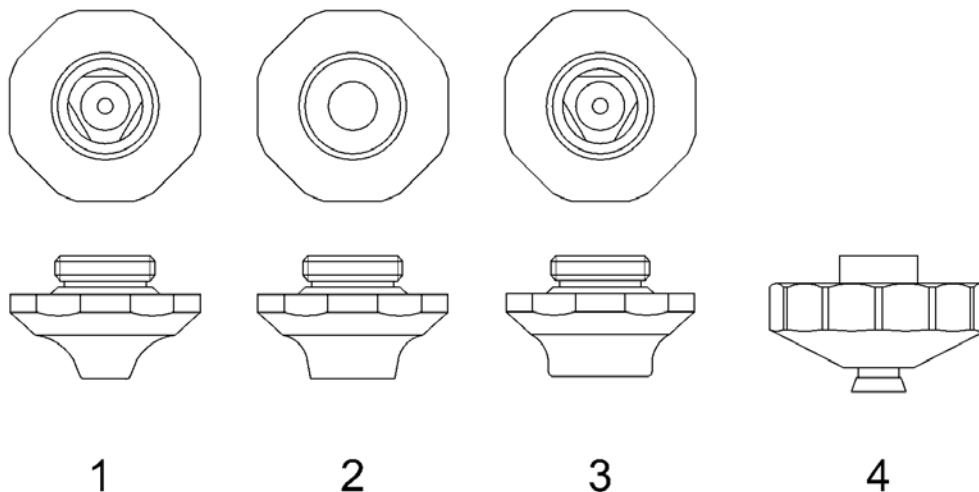
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Trumpf® BrightLine® & CoolLine® Nozzles



Bright Line Nozzles			
Outline No.	Trumpf No.	Order No.	DESCRIPTION (Sold Individually)
1	1664569	RNT081/17	Nozzle EAN ø 1.7mm
	1664602	RNT082/20	Nozzle EAN ø 2.0mm
	1664625	RNT083/25	Nozzle EAN ø 2.5mm
1	1835747	RNT084/40	Nozzle EAK ø 4.0mm
2	1633046	RNT085/53	Nozzle EAC ø 5.3mm
3	1809091	RNT086/60	Nozzle EAQ ø 6.0mm
	1809421	RNT087/75	Nozzle EAQ ø 7.5mm
	1886199	RNT088/95	Nozzle EAQ ø 9.5mm
Cool Line Nozzles			
Outline No.	Trumpf No.	Order No.	DESCRIPTION (Sold Individually)
4	1774018	RNT089/14	Nozzle EFL ø 1.4mm
	1774020	RNT090/20	Nozzle EFL ø 2.0mm
	1774092	RNT091/23	Nozzle EFL ø 2.3mm



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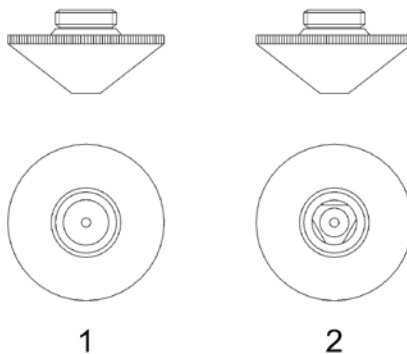
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Precitec® Nozzles



Precitec Nozzles			
Outline No.	Precitec No.	Order No.	DESCRIPTION (Sold in packages of 10)
1	P0591-571-00010	RNP130/10	Nozzle q 1,0 mm
	P0591-572-00012	RNP131/12	Nozzle q 1,2 mm
	P0591-573-00015	RNP132/15	Nozzle q 1,5 mm
	P0591-574-00018	RNP133/18	Nozzle q 1,8 mm
	P0591-575-00020	RNP134/20	Nozzle q 2,0 mm
		RNP135/22	Nozzle q 2,2 mm
	P0591-576-00025	RNP136/25	Nozzle q 2,5 mm
		RNP137/27	Nozzle q 2,7 mm
	P0591-577-00030	RNP138/30	Nozzle q 3,0 mm
Outline No.	Precitec No.	Order No.	DESCRIPTION (Sold in packages of 10)
2		RNP300/10D	Double nozzle q 1,0 mm
		RNP301/12D	Double nozzle q 1,2 mm
		RNP302/15D	Double nozzle q 1,5 mm
		RNP303/18D	Double nozzle q 1,8 mm
		RNP304/20D	Double nozzle q 2,0 mm
		RNP305/23D	Double nozzle q 2,3 mm
		RNP306/25D	Double nozzle q 2,5 mm
		RNP307/30D	Double nozzle q 3,0 mm
		RNP308/35D	Double nozzle q 3,5 mm





Consumables for Trumpf® TruLaser®, Trumatic®, TCL & TC HSL Lasers
600L, 1030, 2025, 2030, 2503E 2510, 2525, 2530, 3000(K03),
3000L, 3003E, 3020, 3030, 3040, 3050, 3060, 3530, 4002, 4003E,
4030, 4050, 5030, 6000(K01), 6000L, 6030, 6050, 7025,
7025 Fiber, 7040, 7040 Fiber, 8000

Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
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Standard Copper Nozzles (Sold in packages of 10)

1	0124561	RNT150/08	Nozzle ø 0.8 mm (0237499)	Call
	0124562	RNT151/10	Nozzle ø 1.0 mm	
	0966809	RNT148/12	Nozzle ø 1.2 mm	
	0237497	RNT152/14	Nozzle ø 1.4 mm With Step	
	0237497-S	RNT159/14	Nozzle ø 1.4 mm With Straight Taper	
	0237500	RNT153/15	Nozzle ø 1.5 mm	
	0237501	RNT154/17	Nozzle ø 1.7 mm	
	1253211	RNT155/20	Nozzle ø 2.0 mm (0237502 & 0237503)	
	0126933	RNT158/23	Nozzle ø 2.3 mm	
		RNT156/25	Nozzle ø 2.5 mm	
	0942742	RNT149/27	Nozzle ø 2.7 mm	
	0237504	RNT157/30	Nozzle ø 3.0 mm	

Outline drawings on following page

Hard Chromium Plated Nozzles (Sold in packages of 10)

1	0352280	RNT150/08C	Nozzle ø 0.8 mm Hard Chromium Plated	Call
	0352281	RNT151/10C	Nozzle ø 1.0 mm Hard Chromium Plated	
	0352282	RNT148/12C	Nozzle ø 1.2 mm Hard Chromium Plated	
	0352283	RNT152/14C	Nozzle ø 1.4 mm Hard Chromium Plated	
	0352284	RNT154/17C	Nozzle ø 1.7 mm Hard Chromium Plated	
	1253212	RNT155/20C	Nozzle ø 2.0 mm Hard Chromium Plated	
	0352285	RNT158/23C	Nozzle ø 2.3 mm Hard Chromium Plated	
	0352286	RNT149/27C	Nozzle ø 2.7 mm Hard Chromium Plated	

Outline drawings on following page

Long Copper Nozzles (Sold in packages of 10)

2	1277773	RNT130/08	Nozzle ø 0.8 mm	Call
	1277771	RNT131/10	Nozzle ø 1.0 mm	
	1277774	RNT132/12	Nozzle ø 1.2 mm	
	1277776	RNT133/14	Nozzle ø 1.4 mm	
	1277779	RNT134/17	Nozzle ø 1.7 mm	
	1277780	RNT135/20	Nozzle ø 2.0 mm	
	1277781	RNT136/23	Nozzle ø 2.3 mm	
	1277782	RNT137/27	Nozzle ø 2.7 mm	

Outline drawings on following page

Long Nozzles with Hard Chromium Plating (Sold in packages of 10)

2		RNT130/08C	Nozzle ø 0.8 mm Hard Chromium Plated	Call
		RNT131/10C	Nozzle ø 1.0 mm Hard Chromium Plated	
		RNT132/12C	Nozzle ø 1.2 mm Hard Chromium Plated	
		RNT133/14C	Nozzle ø 1.4 mm Hard Chromium Plated	
		RNT134/17C	Nozzle ø 1.7 mm Hard Chromium Plated	
		RNT135/20C	Nozzle ø 2.0 mm Hard Chromium Plated	
		RNT136/23C	Nozzle ø 2.3 mm Hard Chromium Plated	
		RNT137/27C	Nozzle ø 2.7 mm Hard Chromium Plated	

Outline drawings on following page

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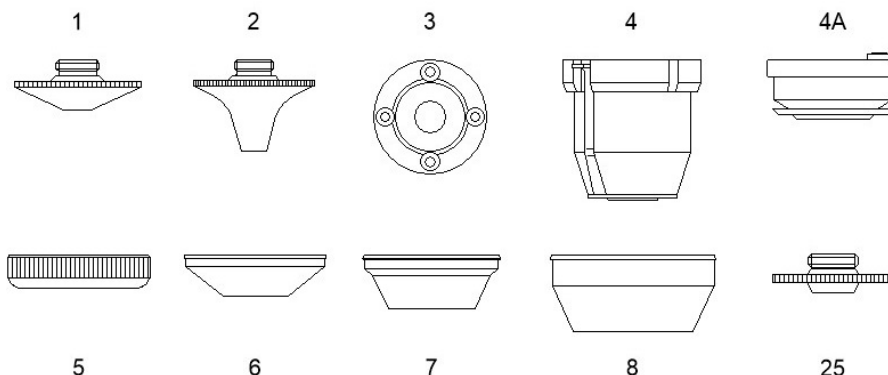
Consumables for Trumpf® TruLaser®, Trumatic®, TCL & TC HSL Lasers

**600L, 1030, 2025, 2030, 2503E 2510, 2525, 2530, 3000(K03),
3000L, 3003E, 3020, 3030, 3040, 3050, 3060, 3530, 4002, 4003E,
4030, 4050, 5030, 6000(K01), 6000L, 6030, 6050, 7025,
7025 Fiber, 7040, 7040 Fiber, 8000**

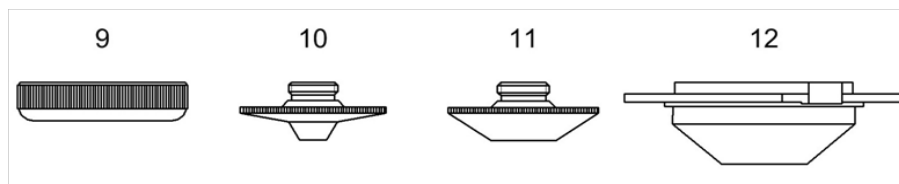


Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
3	0234485	RMT163/BAB	Break Away Bar	Call
4	0260432	RHT109/H	Nozzle HOLDER "Ceramic"	
4A	0258809	RHT111/H	Nozzle HOLDER "Ceramic" (0243839 & 0247894)	
5	0216066	RMT165/NUT	Locking Nut	
6	0225286	RTT160/TC	Teflon Cover, White (Lasermatic)	
7	0254496	RTT161/TC	Teflon Cover, White	
8	0256153	RTT162/TC	Teflon Cover DIAS III, White	
8	0955826	RTT162/TCB	Teflon Cover DIAS III, Black	
25	-	RMT139/NOZZLE-ADAPT	Adapter for Precitec KTB2 Heads to M8 thread, allowing the use of the nozzles listed on the previous page.	

NEW items shown in **BOLD** type



Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
10	0215780	RNT100/08	Nozzle ø 0.8 mm (Sold in packages of 10)	Call
	087658	RNT101/10	Nozzle ø 1.0 mm (Sold in packages of 10)	
	088894	RNT102/14	Nozzle ø 1.4 mm (High Pressure) (Sold in packages of 10)	
	0217867	RNT104/17	Nozzle ø 1.7 mm (High Pressure) (Sold in packages of 10)	
11	088893	RNT103/15	Nozzle ø 1.5 mm (Sold in packages of 10)	
	0221781	RNT105/20	Nozzle ø 2.0 mm (Sold in packages of 10)	
	0235592	RNT108/30	Nozzle ø 3.0 mm (Sold in packages of 10)	
9	0216066	RMT165/NUT	Locking Nut	
12	0216065	RTT112/TC	Teflon Cover, White	



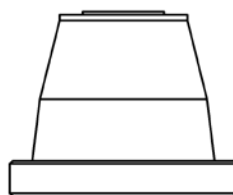
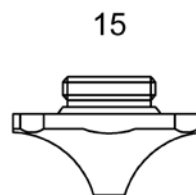
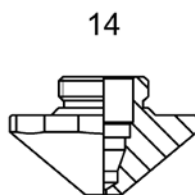
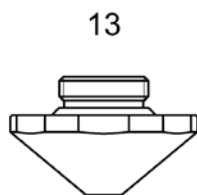
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Consumables for Trumpf® TruLaser® TruMatic® Lasers
1030 Fiber, 3030 Fiber, 3030(L20), 3040 Fiber, 3040(L32),
5030(L16), 5030(L52), 5030 Fiber, 5040(L18), 5040(L53),
5040 Fiber, 5060(L19), 5060(L54), 6000(K05), 7000(K02),
7040, & 8000

Outline No.	Trumpf No.	Order No.	DESCRIPTION (Sold in packages of 10)	Price
13	1324858	RNT060/08	Nozzle ϕ EAA 0.8 mm	Call
	1324860	RNT061/10	Nozzle ϕ EAA 1.0 mm	
	1324861	RNT062/12	Nozzle ϕ EAA 1.2 mm	
	1324863	RNT063/14	Nozzle ϕ EAA 1.4 mm	
	1324864	RNT064/17	Nozzle ϕ EAA 1.7 mm	
	1324865	RNT065/20	Nozzle ϕ EAA 2.0 mm	
	1324866	RNT066/23	Nozzle ϕ EAA 2.3 mm	
	1324867	RNT067/27	Nozzle ϕ EAA 2.7 mm	
14		RNT060/08D	Double Nozzle ϕ 0.8 mm	
		RNT061/10D	Double Nozzle ϕ 1.0 mm	
		RNT062/12D	Double Nozzle ϕ 1.2 mm	
		RNT063/14D	Double Nozzle ϕ 1.4 mm	
		RNT064/17D	Double Nozzle ϕ 1.7 mm	
		RNT065/20D	Double Nozzle ϕ 2.0 mm	
		RNT066/23D	Double Nozzle ϕ 2.3 mm	
		RNT067/27D	Double Nozzle ϕ 2.7 mm	
15	1373324	RNT070/08	Nozzle ϕ EAB 0.8 mm	
	1373325	RNT071/10	Nozzle ϕ EAB 1.0 mm	
	1373326	RNT072/12	Nozzle ϕ EAB 1.2 mm	
	1373327	RNT073/14	Nozzle ϕ EAB 1.4 mm	
	1373328	RNT074/17	Nozzle ϕ EAB 1.7 mm	
	1373329	RNT075/20	Nozzle ϕ EAB 2.0 mm	
	1373330	RNT076/23	Nozzle ϕ EAB 2.3 mm	
	1373331	RNT077/27	Nozzle ϕ EAB 2.7 mm	
24	1349171 & 1755673	RHT112/H	Nozzle Holder M12 Thread (Sold individually)	



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**Consumables for Trumpf® TruLaser® Tube,
Tubematic® & Tubematic® RC Lasers TCL105,
3000, 5000(T01), 5000(T05) & 7000**

Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
16	913965	RMT007/NUT	Locking Nut	Call

Outline drawings on following page

Standard Copper Nozzles (Sold in packages of 10)

17	0212334	RNT010/10	Nozzle EBD ø 1.0 mm	Call
		RNT025/10	Nozzle ø 1.0 mm (Designed for high pressure cutting)	
	0216199	RNT011/14	Nozzle EBD ø 1.4 mm	
	0225213	RNT012/17	Nozzle EBD ø 1.7 mm	
	1487036	RNT034/20	Nozzle EBF ø 2.0 mm	
	0126156	RNT028/23	Nozzle EBD ø 2.3 mm	
20	0237364	RNT019/10	Shower Nozzle ø 1.0 mm	
18	0226939	RNT013/10	Nozzle ø 1.0 mm	
		RNT026/10	Nozzle ø 1.0 mm	
	0226940	RNT014/14	Nozzle ø 1.4 mm	
	0227144	RNT015/17	Nozzle ø 1.7 mm	
		RNT029/23	Nozzle ø 2.3 mm	
19		RNT016/10	Nozzle ø 1.0 mm	
		RNT017/14	Nozzle ø 1.4 mm	
		RNT018/17	Nozzle ø 1.7 mm	
		RNT030/23	Nozzle ø 2.3 mm	
21	0135320	RNT225/10	Nozzle ø 1.0 mm Rough Edged	
		RNT226/12	Nozzle ø 1.2 mm Rough Edged	
	0135318	RNT220/14	Nozzle ø 1.4 mm Rough Edged	
	0126157	RNT221/17	Nozzle ø 1.7 mm Rough Edged	

Outline drawings on following page

Hard Chromium Plated Nozzles (Sold in packages of 10)

17	0212334	RNT010/10C	Nozzle EBD ø 1.0 mm Hard Chromium Plated	Call
		RNT025/10C	Nozzle ø 1.0 mm Hard Chromium Plated	
	0216199	RNT011/14C	Nozzle EBD ø 1.4 mm Hard Chromium Plated	
	0225213	RNT012/17C	Nozzle EBD ø 1.7 mm Hard Chromium Plated	
	0126156	RNT028/23C	Nozzle EBD ø 2.3 mm Hard Chromium Plated	
18	0226939	RNT013/10C	Nozzle ø 1.0 mm Hard Chromium Plated	
		RNT026/10C	Nozzle ø 1.0 mm Hard Chromium Plated	
	0226940	RNT014/14C	Nozzle ø 1.4 mm Hard Chromium Plated	
	0227144	RNT015/17C	Nozzle ø 1.7 mm Hard Chromium Plated	
		RNT029/23C	Nozzle ø 2.3 mm Hard Chromium Plated	
19		RNT016/10C	Nozzle ø 1.0 mm Hard Chromium Plated	
		RNT017/14C	Nozzle ø 1.4 mm Hard Chromium Plated	
		RNT018/17C	Nozzle ø 1.7 mm Hard Chromium Plated	
		RNT030/23C	Nozzle ø 2.3 mm Hard Chromium Plated	
21	0135320	RNT225/10C	Nozzle ø 1.0 mm Rough Edged Hard Chromium Plated	
		RNT226/12C	Nozzle ø 1.2 mm Rough Edged Hard Chromium Plated	
	0135318	RNT220/14C	Nozzle ø 1.4 mm Rough Edged Hard Chromium Plated	
	0126157	RNT221/17C	Nozzle ø 1.7 mm Rough Edged Hard Chromium Plated	

Outline drawings on following page

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**Consumables for Trumpf® TruLaser® Tube,
Tubematic® & Tubematic® RC Lasers TCL105,
3000, 5000(T01), 5000(T05) & 7000**



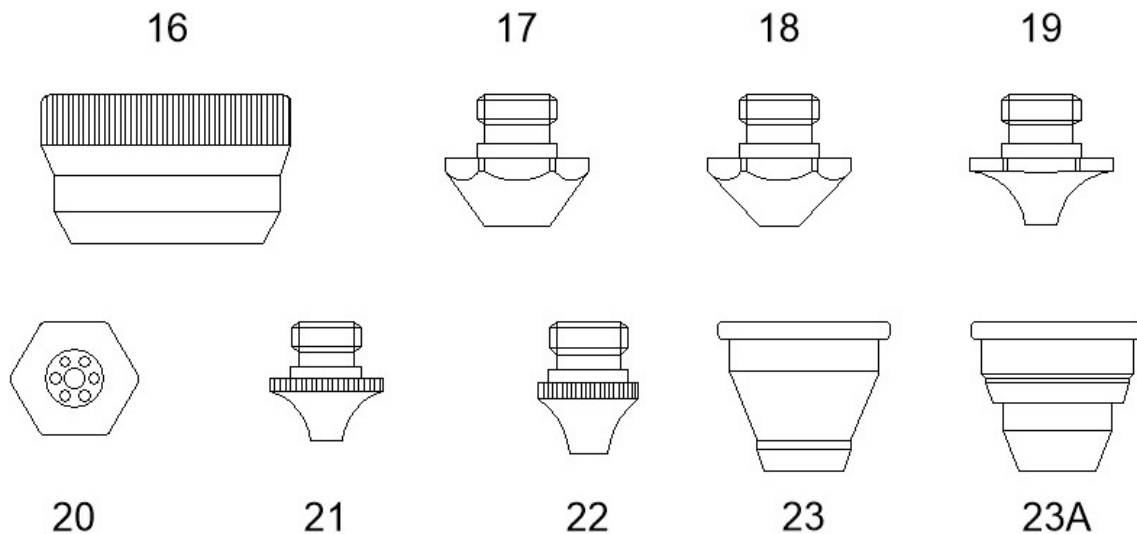
Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
16	0913965	RMT007/NUT	Locking Nut	Call
23	0936678	RHT110/H	Nozzle Holder "Ceramic" (Trumpf original design)	
23A	0936678	RHT115/H	Nozzle Holder "Ceramic" (Half metal & half ceramic)	
-	0092405	RHT113/H	Nozzle Holder for Precitec cutting heads only.	

Standard Copper Nozzles (Sold in packages of 10)

22	0958206	RNT006/025	"Teach" Nozzle ø 0.25 mm	Call
	0913799	RNT020/08	Nozzle ø 0.8 mm	
	0913800	RNT021/10	Nozzle ø 1.0 mm	
	0913801	RNT022/14	Nozzle ø 1.4 mm	
	0937988	RNT023/17	Nozzle ø 1.7 mm	
	0937989	RNT024/23	Nozzle ø 2.3 mm	

Hard Chromium Plated Nozzles (Sold in packages of 10)

22	0913799	RNT020/08C	Nozzle ø 0.8 mm Hard Chromium Plated	Call
	0913800	RNT021/10C	Nozzle ø 1.0 mm Hard Chromium Plated	
	0913801	RNT022/14C	Nozzle ø 1.4 mm Hard Chromium Plated	
	0937988	RNT023/17C	Nozzle ø 1.7 mm Hard Chromium Plated	
	0937989	RNT024/23C	Nozzle ø 2.3 mm Hard Chromium Plated	



Optics



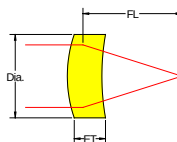
Richardson Electronics lenses and mirrors are manufactured using the highest quality materials and tightest process controls available in the industry. Every optic undergoes thorough quality controls to ensure you will get the best performance in your laser. Our standard lenses meet or exceed OEM specifications. Our low absorption lenses are the best choice for laser powers of 4 KW and up.

Our optics can help you reduce the total cost of operation of your laser.

Lenses & Protective Lens Covers

Trumpf No.	Order No.	DESCRIPTION	Price
0759720	RLT122/55D1.5T	55 Dia. x 1.5mm Thick, Fused Silica Window	Call
0766719	RLT128/30D5T	30 Dia. x 5mm Thick, Fused Silica Window	
0798142	RLT122/55D1.5T	55 Dia. x 1.5mm Thick, Fused Silica Window	
1330414	RLT109/45S	115mm F/L, D50, 8.9mm ET, Cut Lens (Without RFID Chip)	
1330443	RLT107/100S	250mm F/L, D50, 8.9mm ET, Cut Lens (Without RFID Chip)	
1330448	RLT108/70S	175mm F/L, D50, 8.9mm ET, Cut Lens (Without RFID Chip)	
1383925	RLT125/60S	155mm F/L, D40, 7.5mm ET, AR/AR	
1383925	RLT205/60LA	155mm F/L, D40, 7.5mm ET, AR/AR (Low Absorption)	
1383926	RLT126/90S	240mm F/L, D40, 7.5mm ET, AR/AR	
1383926	RLT206/90LA	240mm F/L, D40, 7.5mm ET, AR/AR (Low Absorption)	
1525872	RLT112/70S	170mm F/L, D50, 8.9mm ET, Cut Lens without RFID Chip	
1770805	RLT110/100S	250mm F/L, D40, 7.5mm ET, Cut Lens (With RFID Chip)	
1772319	RLT111/50S	130mm F/L, D40, 7.5mm ET, Cut Lens (With RFID Chip)	
1795719	RLT114/70S	175mm F/L, D50, 8.9mm ET, Cut Lens with RFID Chip	
1796128	RLT115/100S	250mm F/L, D50, 8.9mm ET, Cut Lens with RFID Chip	
1830767	RLT113/70S	170mm F/L, D50, 8.9mm ET, Cut Lens with RFID Chip	
0141972	RLT103/90S	9" F/L, 1.5" Dia., 0.291 ET, AR ≤ 0.20%	
0346104	RLT102/375S	3.75" F/L, 1.5" Dia., 0.291 ET, AR ≤ 0.20%	
0350163	RLT104/100S	10" F/L, 1.5" Dia., 0.291 ET, AR ≤ 0.20%	
0380115	RLT105/100S	250mm F/L, D40, 7.5mm ET, Cut Lens (Without RFID Chip)	
0380117	RLT106/50S	130mm F/L, D40, 7.5mm ET, Cut Lens (Without RFID Chip)	
088114	RLT100/50S	5" F/L, 1.5" Dia., 0.291 ET, AR ≤ 0.20%	
088114	RLT200/50LA	5" F/L, 1.5" Dia., 0.291 ET, AR ≤ 0.15% (Low Absorption)	
097517	RLT101/75S	7.5" F/L, 1.5" Dia., 0.291 ET, AR ≤ 0.20%	
097517	RLT201/75LA	7.5" F/L, 1.5" Dia., 0.291 ET, AR ≤ 0.15% (Low Absorption)	
1614767, 1614797	RLT120/PLC-FIBR	34 Dia. x 5mm Thick, Fused Silica Window	
0122024	RLT024/LNSTICK	Knit Polyester Cleaning Swabs (100/pack)	
0240568	RLT568/TOPOL80	Topol Leans Cleaner (80ml Bottle)	
086452, 13082010	EK1546027T	Lens Cleaning Paper - Sold in packs of 50 sheets	
1687226	RLT226/LRG PAPER	Large Lens Cleaning Paper - Sold in packs of 50 sheets	
	EK1463728T	Lens Cleaning Solution - 16 oz.	
	EZ-TEST	Used to test lenses for stress that can lead to failure.	

NEW items shown in **BOLD** type



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Optics

Mirrors

Trumpf No.	Order No.	DESCRIPTION	Price
0129880	RRT103/90PS	Si 90 Phase Shift 68mm x 20mm	Call
0129881	RRT102/0PS	Si 0 Phase Shift 68mm x 20mm	
0365640	RRT114/90PS	Cu 90 Phase Shift 68mm x 20.32mm	
0920689	RRT104/CUWC	Cu W/C Mirror 68mm x 34mm	
0977219	RRT219/U	U Mirror set, includes seven MMR mirrors, one PLM mirror and mounting o-rings	
1331867	RRT867/PLM	Polarize Lock Mirror, includes mounting o-rings	
1492304	RRT304/MMR	MMR Mirror includes mounting o-rings	
	MIRR-POL/390050	Mirror Polishing Compound	



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Bellows

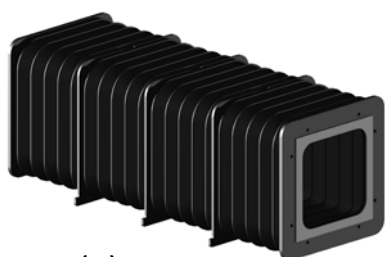


Richardson Electronics is a worldwide distributor of laser bellows for machines from most major manufacturers.

We offer laser bellows made specifically for your laser machine. Designed and manufactured in Europe, our laser bellows are made with heat resistant, flame retardant materials and are able to withstand high operating temperatures while providing years of service.

In addition, tight fitting laser bellows keep unwanted particles out of the laser beam and protect machine rails, racks and bearings, to keep your laser machine running smoothly.

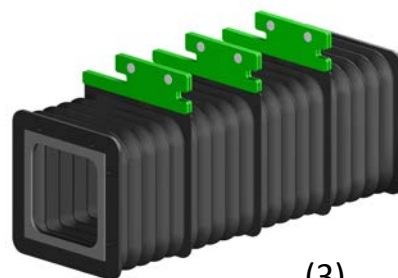
L1005 (3 Meter Bed)				
Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
1	0139850	RBT181/10BX3M	X Axis Beam Bellow (Left)	Call
1	0139851	RBT180/10BPX3M	X Axis Beam Path Bellow (Right)	
3	0139852	RBT182/10BPY	Y Axis Beam & Beam Path Bellow (Front & Rear)	
6	0139853	RBT184/10URX3M	U Axis Rail Bellow (Left & Right)	
4	0139854	RBT185/10RX3M	X Axis Rail Bellow (Left)	
-	0139855	RBT186/10RX3M	X Axis Rail Bellow (Right) - <i>Available soon</i>	
5	0140160	RBT187/10RY	Y Axis Rail Bellow (Front & Rear)	
2	0140805	RBT183/10BPZ	Z Axis Beam Path Bellow	



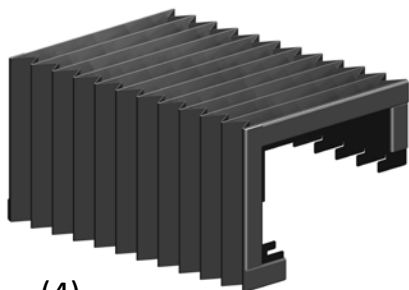
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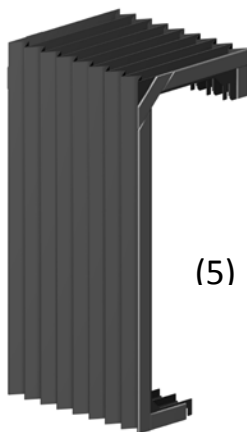
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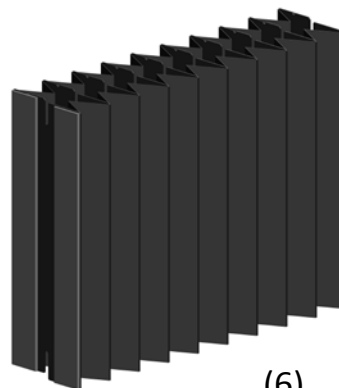
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Bellows

L2530				
Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
-	0135402	RBT160/25RX	X Axis Rail Bellow (Front)	Call
4	0135401	RBT161/25RX	X Axis Rail Bellow (Rear)	
5	0135399	RBT162/25RY	Y Axis Rail Bellow (Right & Left)	
5	0980133	RBT162/25RY	Y Axis Rail Bellow (Right & Left)	
3	0925803	RBT163/25BX	X Axis Beam Bellow (Right)	
3	0939013	RBT164/25BPX	X Axis Beam Path Bellow (Left)	
3	0939014	RBT165/25BPY	Y Axis Beam Path Bellow (Rear)	
3	0354501	RBT165/25BPY	Y Axis Beam Path Bellow (Rear)	
6	0939012	RBT167/25BPY	Y Axis Beam Path Bellow (Middle)	
3	0925802	RBT166/25BY	Y Beam Bellow (Front)	
2	0910354	RBT102/30BPZ	Z Axis Beam Path Bellow	

L3030 Bellows				
Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
1	0124393	RBT105/30BX	X Axis Beam Bellow (Front)	Call
3	0124394	RBT106/30BY	Y Axis Beam Bellow (Right)	
8	0141394	RBT101/30RX	Y Axis Rail Bellow (each)	
1	0908032	RBT105/30BX	X Axis Beam Bellow (Front)	
3	0908033	RBT106/30BY	Y Axis Beam Bellow (Right)	
2	0910354	RBT102/30BPZ	Z Axis Beam Path Bellow	
1	0920715	RBT105/30BX	X Axis Beam Bellow (Front)	
3	0920716	RBT106/30BY	Y Axis Beam Bellow (Right)	
7	0921742	RBT100/30RX	X Axis Rail Bellow (each)	
1	0939015	RBT103/30BPX*	X Axis Beam Path Bellow (Rear)	
3	0939016	RBT104/30BPY*	Y Axis Beam Path Bellow (Left)	
1	1667790	RBT105/30BX	X Axis Beam Bellow (Front)	
3	1667801	RBT106/30BY	Y Axis Beam Bellow (Right)	
1	1667803	RBT103/30BPX*	X Axis Beam Path Bellow (Rear)	
3	1667805	RBT104/30BPY*	Y Axis Beam Path Bellow (Left)	

L4030 Bellows				
Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
8	0144949	RBT108/40RY	Y Axis Rail Bellow (each)	Call
2	0910354	RBT102/30BPZ	Z Axis Beam Path Bellow	
3	0920719	RBT113/40BY	Y Axis Beam Bellow (Right)	
7	0921870	RBT107/40RX	X Axis Rail Bellow (each)	
3	0938000	RBT111/40BPY	Y Axis Beam Path Bellow (Left)	
1	0939017	RBT110/40BPX	X Axis Beam Path Bellow (Rear)	
1	0975011	RBT112/40BX	X Axis Beam Bellow (Front)	
1	0976624	RBT112/40BX	X Axis Beam Bellow (Front)	
7	1883139	RBT107/40RX	X Axis Rail Bellow (each)	

Did you know that delaying the replacement of your worn, hole filled, beam & beam path bellows can increase your monthly usage (and cost) of the nitrogen used in the beam purge? **It pays to replace your worn bellows!**

See the following page for outline identification.

*If your laser has the long beam clipper (typically found on machines built prior to 2000) it will need to be changed to the newer shorter version before using this replacement bellow.

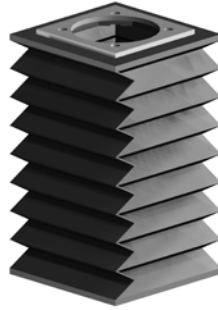
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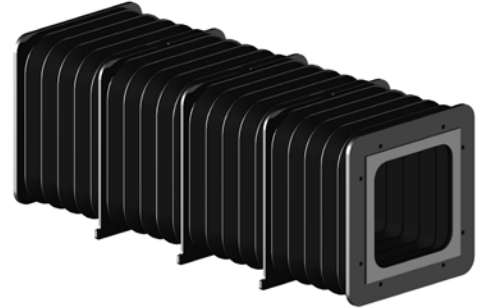
L2530, L3030 & 4030 Bellow Outlines



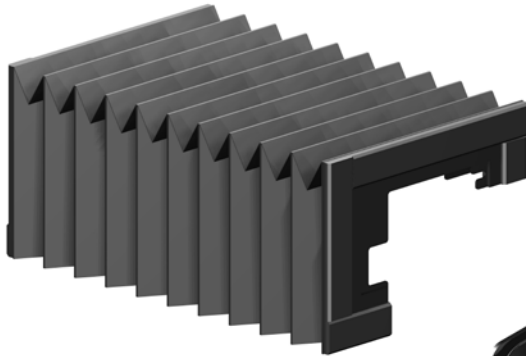
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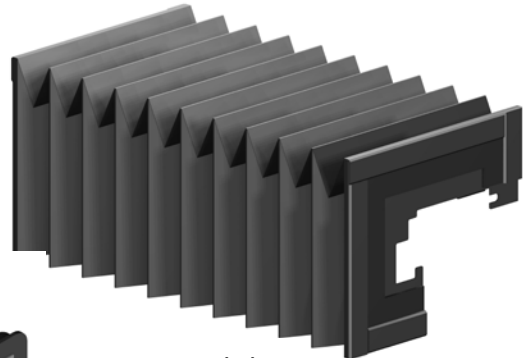
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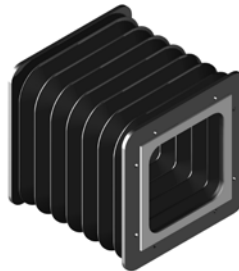
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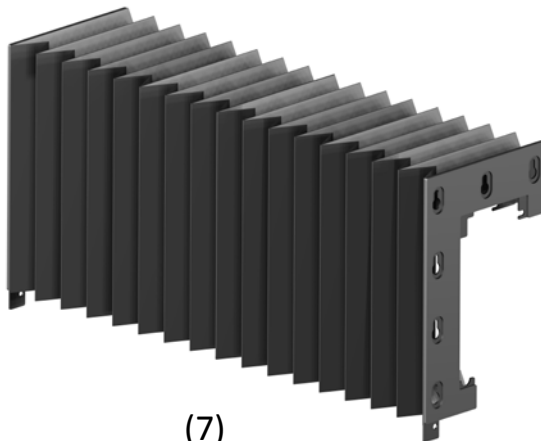
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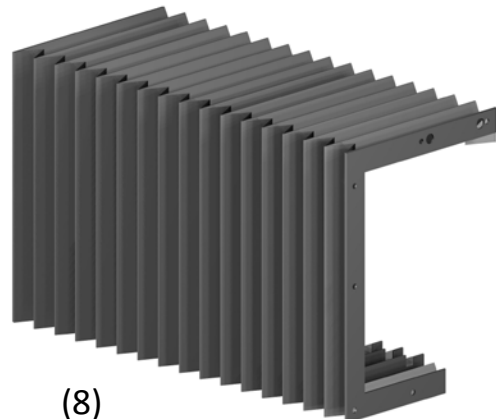
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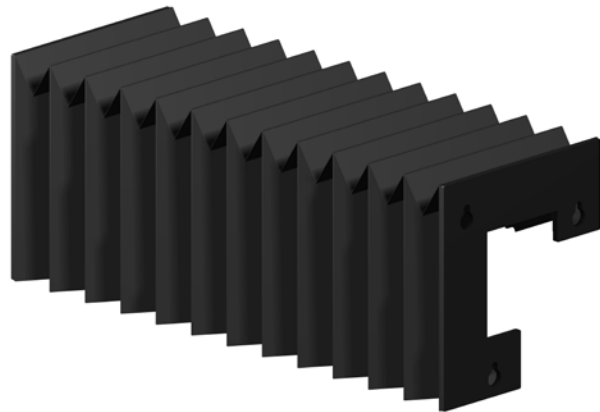
Bellows

L3030 (L20)				
Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
*	1458860	RBT119/30L20BX	X Axis Beam Bellow (Round) (Front)	Call
*	1458861	RBT118/30L20BPX	X Axis Beam Path Bellow (Round) (Rear)	
1	1458866	RBT116/30RRX	X Axis Rail Bellow (Right)	
2	1458867	RBT117/30LRX	X Axis Rail Bellow (Left)	
*	1469968	RBT122/30L20BPZ	Z Axis Beam Path Bellow	
*	1496435	RBT121/30L20RBY	Y Beam/Rail Combo Bellow (Round) (Right)	
*	1496436	RBT120/30L20RPY	Y Beam Path/Rail Combo Bellow (Round) (Left)	
*	1561554	RBT122/30L20CZ	Z Axis Chest Bellow	
*	1854032	RBT118/30L20BPX	X Axis Beam Path Bellow (Round) (Rear)	
1	1865268	RBT116/30RRX	X Axis Rail Bellow (Right)	
2	1865269	RBT117/30LRX	X Axis Rail Bellow (Left)	

* Available Spring 2017



(1)



(2)

Bellows

L3050 Bellows (Prior to Mid-2005)				
Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
2	0910354	RBT102/30BPZ	Z Axis Beam Path Bellow	Call
5	0978079	RBT138/50UXBP	U & X Axis Beam Path Bellow	
10	0981710	RBT136/50RX	X Axis Rail Bellow (Right/Front & Rear)	
7	0981753	RBT133/50RU	U Axis Rail Bellow (Front & Rear)	
9	0981756	RBT135/50RX	X Axis Rail Bellow (Left/Rear)	
9	0981757	RBT131/50RX	X Axis Rail Bellow (Left/Front & Middle)	
3	0986703	RBT132/50RBY	Y Axis Beam/Rail Combo Bellow (Left)	
6	0993338	RBT137/50RY	Y Axis Rail Bellow (Right)	
3	1226192	RBT132/50RBY	Y Axis Beam/Rail Combo Bellow (Left)	
6	1226193	RBT137/50RY	Y Axis Rail Bellow (Right)	
9	1302018	RBT135/50RX	X Axis Rail Bellow (Left/Rear)	
9	1302020	RBT131/50RX	X Axis Rail Bellow (Left/Front & Middle)	
7	1302386	RBT133/50RU	U Axis Rail Bellow (Front & Rear)	
9	1596087	RBT131/50RX	X Axis Rail Bellow (Left/Front & Middle)	
9	1596088	RBT135/50RX	X Axis Rail Bellow (Left/Rear)	
9	1873857	RBT135/50RX	X Axis Rail Bellow (Left/Rear)	
L3050 Bellows (Mid-2005 & After)				
Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
2	0910354	RBT102/30BPZ	Z Axis Beam Path Bellow	Call
6	1226193	RBT137/50RY	Y Axis Rail Bellow (Right)	
4	1271514	RBT134/50UXBP	U & X Axis Round Beam Path Bellow	
9	1302018	RBT135/50RX	X Axis Rail Bellow (Left/Rear)	
9	1302020	RBT131/50RX	X Axis Rail Bellow (Left/Front & Middle)	
7	1302386	RBT133/50RU	U Axis Rail Bellow (Front & Rear)	
8	1307207	RBT130/50RX	X Axis Rail Bellow (Right/Front & Rear)	
1	1353514	RBT139/50RBY	Y Axis Round Beam/Rail Combo Bellow (Left)	
8	1596086	RBT130/50RX	X Axis Rail Bellow (Right)	
9	1596087	RBT131/50RX	X Axis Rail Bellow (Left/Front & Middle)	
9	1596088	RBT135/50RX	X Axis Rail Bellow (Left/Rear)	
8	1873855	RBT130/50RX	X Axis Rail Bellow (Right/Front & Rear)	

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L3050 Bellow Outlines



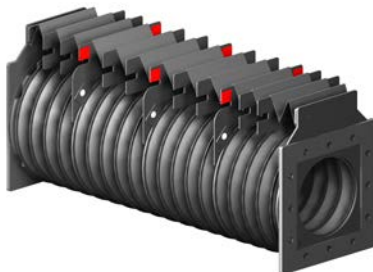
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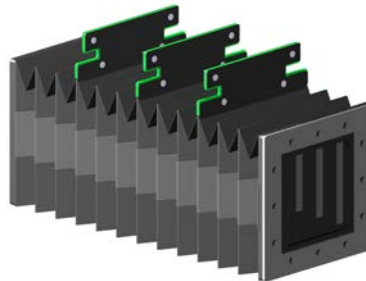
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(3)



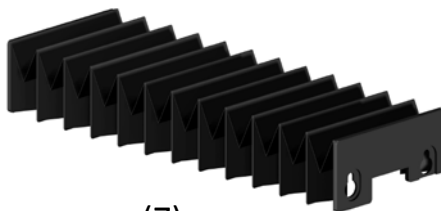
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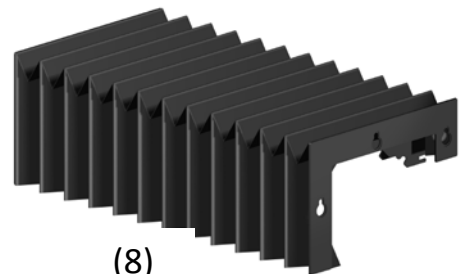
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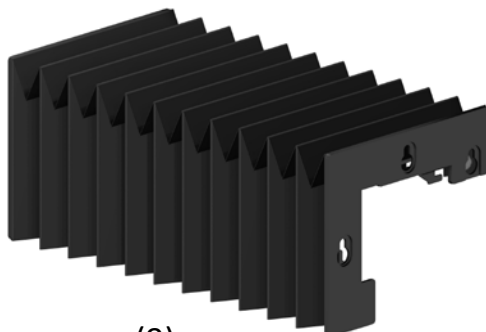
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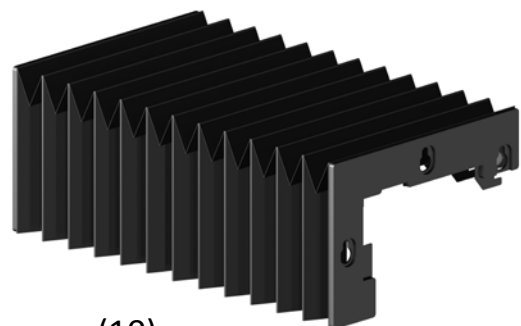
(7)



(8)



(9)



(10)

Bellows

L3530 Bellows

Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
1	1667790	RBT105/30BX	X Axis Beam Bellow (Front)	Call
1	1667803	RBT103/30BPX	X Axis Beam Path Bellow (Rear)	
-	0362270	RBT250/353BPY	Y Axis Beam Path Bellow (Left)	
-	0362271	RBT251/353BY	Y Axis Beam Bellow (Right)	
-	0362272	RBT252/353BPX2	X Axis Beam Bellow (Front)	
-	0362273	RBT253/353BX2	X Axis Beam Path Bellow (Rear)	
2	0910354	RBT102/30BPZ	Z Axis Beam Path Bellow	

NEW items shown in **BOLD** type

See the following page for outline identification.

L4050 Bellows

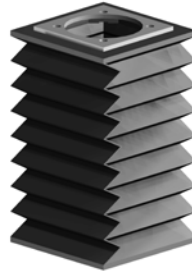
Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
2	0910354	RBT102/30BPZ	Z Axis Beam Path Bellow	Call
3	1222110	RBT200/45RBPY	Y Axis Beam Path/Rail Combo Bellow	
6	1222111	RBT201/45RY	Y Axis Rail Bellow	
5	1222528	RBT207/45RU	U Axis Rail Bellow	
7	1222529	RBT205/45RXLF	X Axis Rail Bellow (Left Middle & Front)	
7	1222571	RBT206/45RXLB	X Axis Rail Bellow (Left/Rear)	
7	1222573	RBT204/45RXR	X Axis Rail Bellow (Right Front & Rear)	
-	1222575	RBT203L/45BPU	U Axis Beam Path Bellow	
1	1222576	RBT202L/45BPX	X Axis Beam Path Bellow	

See the following page for outline identification.

Bellows



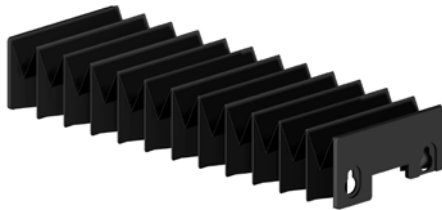
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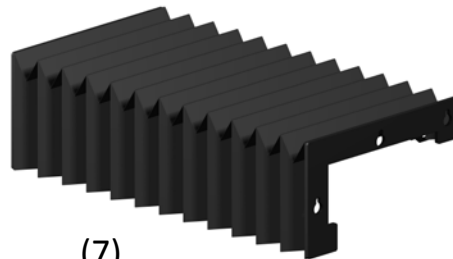
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(5)



(6)



(7)

Bellows

L6030 Bellows

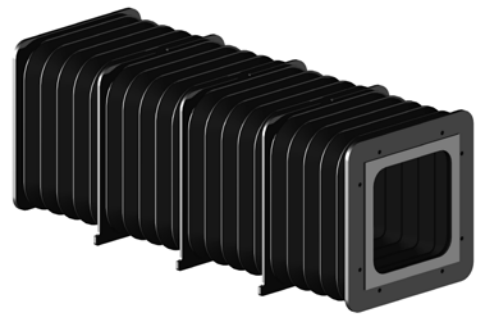
Outline No.	Trumpf No.	Order No.	DESCRIPTION	Price
5	0144949	RBT108/40RY	Y Axis Rail Bellow	Call
2	0910354	RBT102/30BPZ	Z Axis Beam Path Bellow	
3	0920719	RBT113/40BY	Y Axis Beam Bellow (Right)	
1	0920730	RBT141/60BX	X Axis Beam Bellow (Front)	
4	0921871	RBT140/60RX	X Axis Rail Bellow	
1	0937999	RBT142/60BPX	X Axis Beam Path Bellow (Rear)	
3	0938000	RBT111/40BPY	Y Axis Beam Path Bellow (Left)	



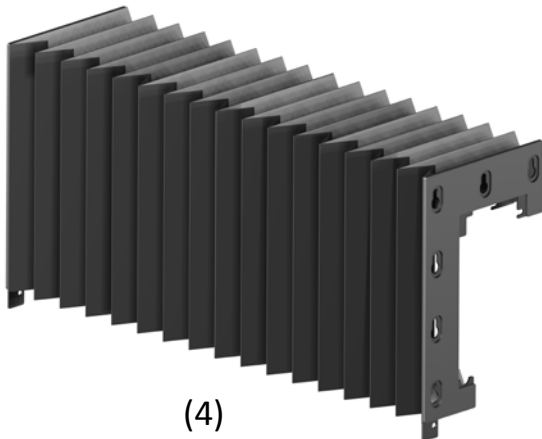
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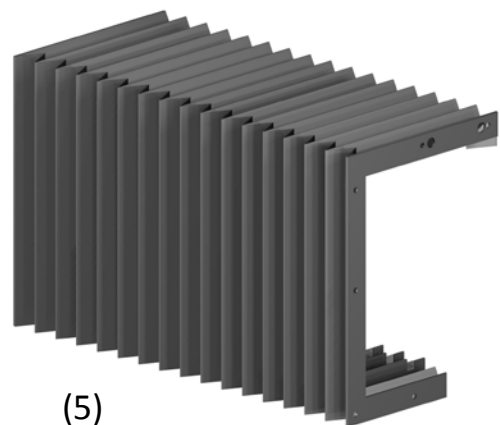
(2)



(3)



(4)



(5)

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Filters



Richardson Electronics is a worldwide distributor of laser filters for machines from all major manufacturers. Because these CO₂ laser consumables are directly related to the health and safety of your technicians and staff, it is important that they be replaced as needed to ensure maximum efficiency and a healthy work environment.

We supply both OEM replacement laser filters and cost-effective aftermarket alternatives. Our dust collector laser filters come from European and American manufacturers, and are made from the highest quality components. We have replacement laser filters rated at MERV 15 or higher, to capture even the finest particles produced by your laser machine.

Richardson Electronics' laser filters are precision manufactured to match the exact specifications of your system. We have replacement filters for nearly any make and model, and a perfect fit and compatibility are guaranteed.

Air Filters, by Donaldson®

Trumpf No.	Order No.	DESCRIPTION	Price
0123674 & 0377006	1C125116	Ultrair FF 03/10 .01µm Silicon Free Fine Filter Element	Call
0123675 & 0377005	1C125716	Ultrair SMF 03/10 .01µm Silicon Free Sub-Micro Filter Element	
0123676 & 0377004	1C125824	Ultrac AK 04/20 Silicon Free Activated Carbon Absorption	
0147239	1C170032-25	Ultrair PEP 05/20 Silicon Free Air Filter	
0147240	1C125432	Ultrair MFP05/20 Silicon Free Air Filter	
0147241	1C125732	Ultrair SMFP05/20 Silicon Free Air Filter	



Donaldson Air Filters

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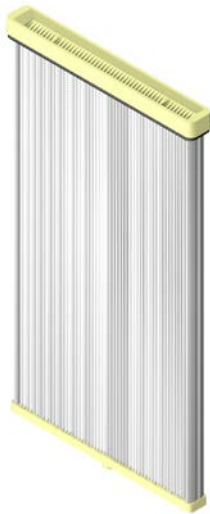
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Dust Collection Filters

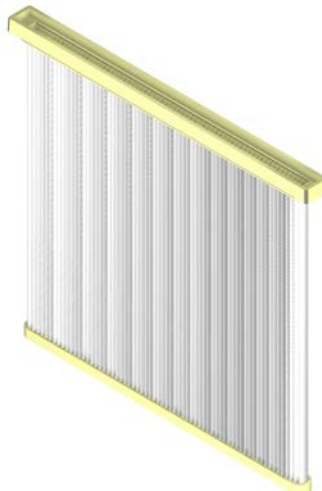
Trumpf No.	Order No.	DESCRIPTION	Price
0139809	RFT809/600	For Handte systems	Call
0141759	RFT759/10	For Keller Vario T1.0 systems (L2530)	
0146122	RFT122/10A*	For KellerVario T1.5 (L2530, L3030, L4030, L6030 & TLC1005)	
0340484	RFT484/125	For Keller Vario T2.5 & T3.0 systems	
0345064, 0346118	RFT064/10	For Handte systems MF-L-30/6/1, MF-L-40/8/1 & MF-L-50/10/1	
0380757	RFT757/10	For Handte systems MF-L-2000, MF-L-2500 & MF-L-3000	
0384514, 0386275	RFT275/600	For Handte MF17/8/1-L20/20 (L1030)	

* New pleated design that provides greater filtration, when compared to the old style SINBRAN® membrane material.

NEW items shown in **BOLD** type



RFT064/10

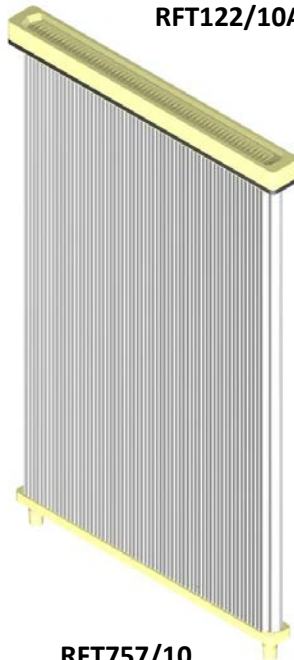


RFT122/10A

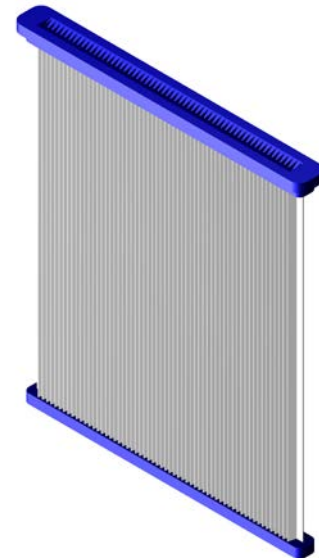


RFT759/10

Did you know that cleaning and replacing filters as needed ensures your dust collection system is operating at peak efficiency and thereby keeping your staff safe from the harmful dust generated during the cutting process? **Have you replaced your filters**



RFT757/10



RFT809/600

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Water Filter

Trumpf No.	Order No.	DESCRIPTION	Price
0146152 & 0143106	CP102480	Chisso 10 µm Water Filter	Call

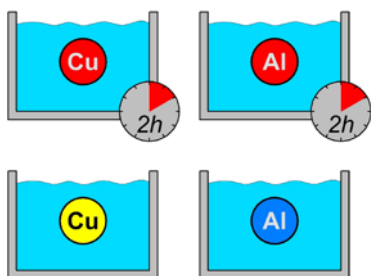


Chiller Filter Material

Trumpf No.	Order No.	DESCRIPTION	Price
	RFT100/1X20	Sold in rolls - 13mm x 1M x 20M (1/2" x 39.4" x 65.6')	Call
	RFT101/25X65	Sold in rolls - 1/2" x 25" x 65' (13mm x 0.64M x 20M)	



Water Treatment Kits & Accessories



We are now offering the copper (Cu) and aluminum (Al) chiller system water treatment kits used in Trumpf® CO₂ lasers. The kits that we are offering are equivalents to the OEM original kits. Each kit contains the exact portions of biocide and inhibitor for your specific chiller systems. The water treatment kits last for 12 months, keeping your down time to a minimum. Each kit contains a CD with the MSDS information as well as protective gear.

Note: Care should always be taken when handling these, or any other chemicals. The use of safety glasses and protective gloves is strongly recommended.

For use anywhere except Europe and Japan

Trumpf No.	Order No.	DESCRIPTION	Price
1652091, 1652606, 1652623	RWK623/EZAL1NA	Aluminum Water Treatment Kit 1	Call
1652981, 1652991, 1652992	RWK991/EZCU1NA	Copper Water Treatment Kit 1	
1652607, 1652630, 1652631	RWK631/EZAL2NA	Aluminum Water Treatment Kit 2	
1652995, 1653088, 1653089	RWK088/EZCU2NA	Copper Water Treatment Kit 2	
1652605, 1652608, 1652609	RWK608/EZAL3NA	Aluminum Water Treatment Kit 3	
1653112, 1653113, 1653114	RWK113/EZCU3NA	Copper Water Treatment Kit 3	
1652964, 1652965, 1652968	RWK965/EZAL4NA	Aluminum Water Treatment Kit 4	
1653107, 1653108, 1653109	RWK108/EZCU4NA	Copper Water Treatment Kit 4	
1653124, 1653125, 1653132	RWK124/EZCU5NA	Copper Water Treatment Kit 5	

Be sure to order new Chisso water filters (Trumpf ID No. 0146152 – our P/N CP102480) when you order your water kits!



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Water Treatment Kits & Accessories



Keeping the water clean is the #1 maintenance tip you should follow. You want to keep the purity of the water within the manufacturers recommended conductivity levels, measured in micro-Siemens (μS), to prevent corrosion of the valuable copper and aluminum components in your laser. Measuring the conductivity of your chiller water is quick and easy with the **Hanna HI98311** meter. Simply turn on the meter, insert the probe end into the water and view the reading on the LCD display. It's that simple! The lower the conductivity reading, the better your water quality is!

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Richardson Electronics, Ltd. is a leading global provider of engineered solutions, power grid and microwave tubes and related consumables, and customized display solutions serving customers in the alternative energy, aviation, broadcast, communications, industrial, marine, medical, military, scientific and semiconductor markets. We bring together a deep understanding of engineering, wide-ranging capabilities and a worldwide network to deliver high quality products such as:

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