



## 2018 catalog

For CO<sub>2</sub> and fiber laser consumables

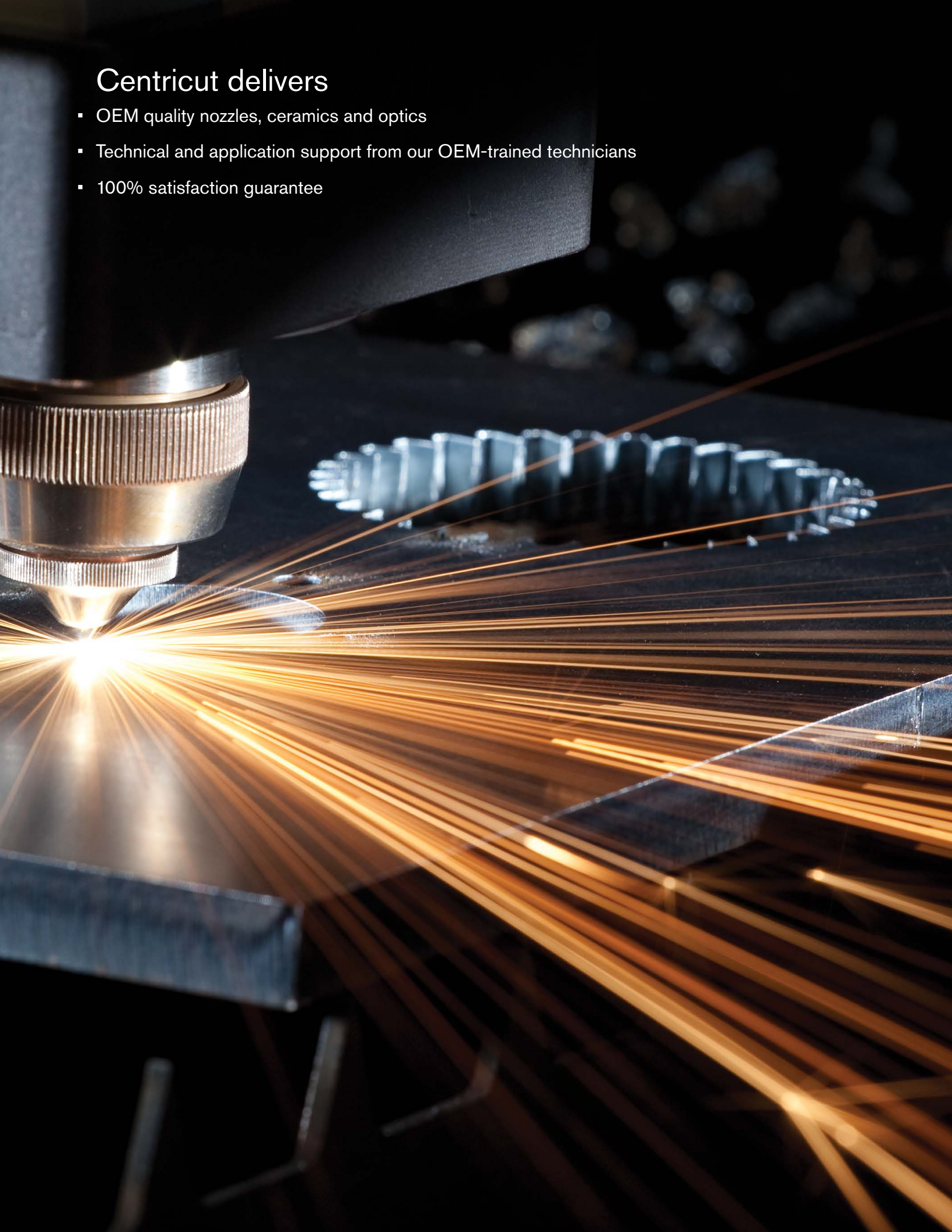
Replacement parts suitable for Precitec®





## Centricut delivers

- OEM quality nozzles, ceramics and optics
- Technical and application support from our OEM-trained technicians
- 100% satisfaction guarantee



# CO<sub>2</sub> and fiber laser nozzles

## Nozzle options

All Centricut nozzles are engineered and manufactured to the highest standards. Select the OEM quality nozzle best suited for your application needs

### Copper

Most commonly used nozzle offering good durability and nozzle life. Primary nozzle type for fiber lasers.

### Chrome plated

Shiny, mirror-like finish provides increased spatter resistance, improved durability and longer life than copper nozzles. Not recommended for use on fiber lasers.

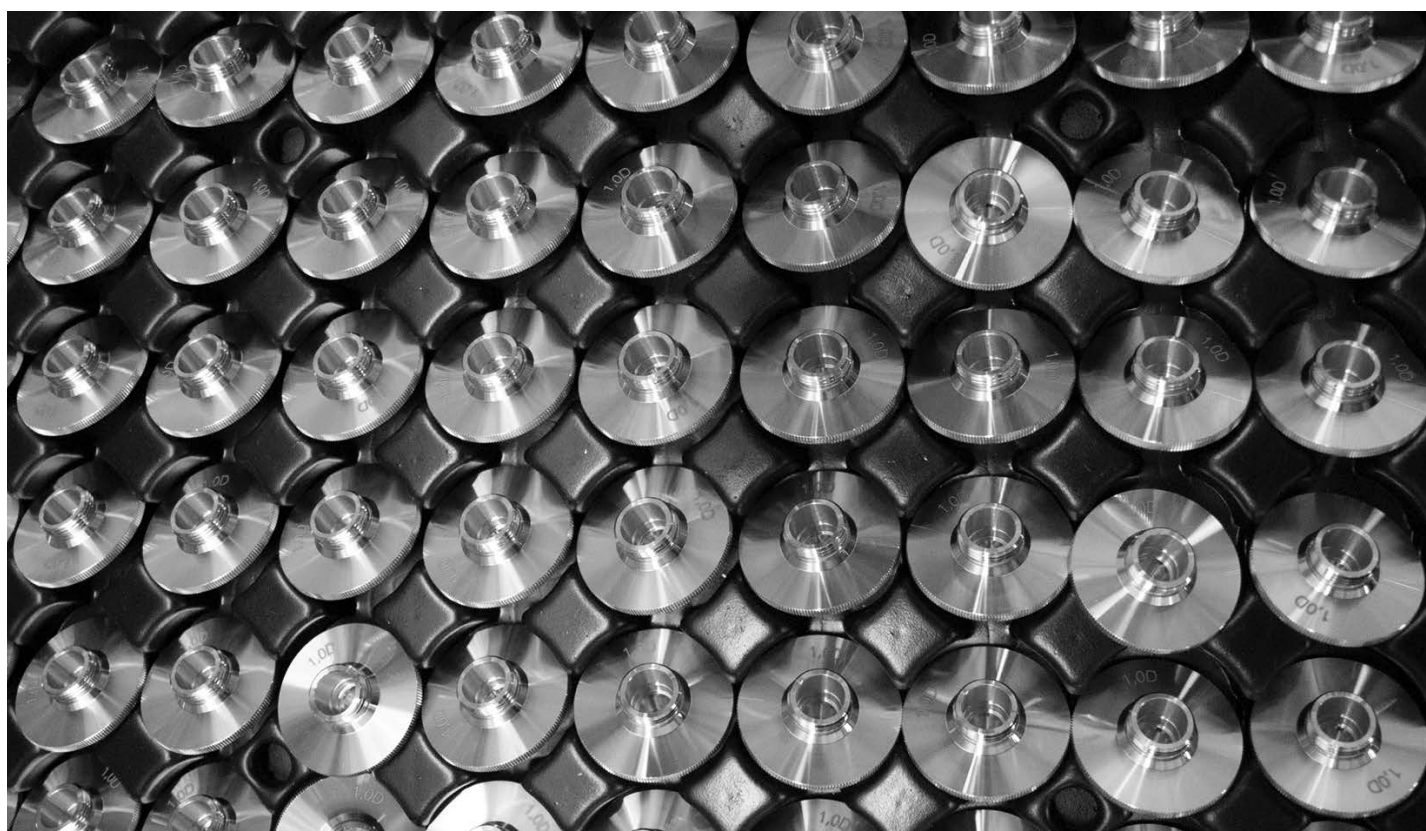
Look for CP in the part number to identify a chrome plated nozzle

### Hard chrome plated

Premium nozzles offering the highest level of durability and longest nozzle life. These nozzles are not as shiny as chrome plated and have a dull appearance. Not recommended for use on fiber lasers.

Look for HCP in the part number to identify a hard chrome nozzle.

CP (chrome plated)	Nozzles plated with chrome for increased durability. These nozzles are easier to clean, resist damage due to 'tip-ups' and have better spatter resistance over non-plated nozzles. For use in all laser cutting applications.
Conical	Conical internal geometry for high pressure, non-ferrous cutting applications using nitrogen, air or argon.
Cylindrical	Cylindrical internal geometry for low pressure, mild steel cutting applications using oxygen.
Double	Insert pressed into a standard cylindrical nozzle for improved edge quality, laminar gas flow and spatter resistance. Primarily used in mild steel applications.
HCP (hard chrome plated)	Enhanced durability chrome plated nozzles. These nozzles are easier to clean, resist damage due to 'tip-ups' and have better spatter resistance over non-plated nozzles. For use in all laser cutting applications.
HP (high pressure) HD (high density)	Conical style nozzle for high pressure, non-ferrous cutting applications using nitrogen, air or argon.
Inner	Also referred to as a 'nozzle insert'. Works in conjunction with an outer nozzle to create a double nozzle. Primarily used in mild steel applications.
Low pressure	Cylindrical style nozzle for low pressure, mild steel cutting applications using oxygen.
Outer	Works in conjunction with an inner nozzle to create a double nozzle. Primarily used in mild steel applications.
Shower	Nozzles with a center orifice surrounded by smaller jets. The smaller jets focus the assist gas into the kerf, creating improved edge quality and the ability to cut thicker material. Primarily used in mild steel applications.





# CO<sub>2</sub> and fiber laser optics

## Optics key

Lens	
MEN	Meniscus
PLX	Plano-convex
MTD	Mounted
Not MTD	Not mounted
PO	Plano
MP5 or ULA	Ultra low absorption
AR	Anti-reflection
ZNSE	Sinc-selinide
FS	Fused silica
DIA	Diameter
FL	Focal length
ET	Edge thickness
WD	Working distance

## How to handle optics

Follow these easy steps, when cleaning or changing your optic, to help maximize the life and performance of your lens

- Avoid touching coated surfaces of the lens and hold the optic by its sides
- Wear powder-free finger cots or latex gloves when handling
- Do not use any tools or sharp objects when handling the optic or when removing it from its packaging
- Ensure the work surface is clean and free of oils, grease and dirt
- Do not place the optic on hard surfaces as they scratch easily
- Once the optic has been unpacked, carefully place it on the lens tissue in which it was originally wrapped

## Optics disposal

It is important to dispose of used laser optics at a licensed industrial waste facility which is in compliance with all local, state, and federal regulations.

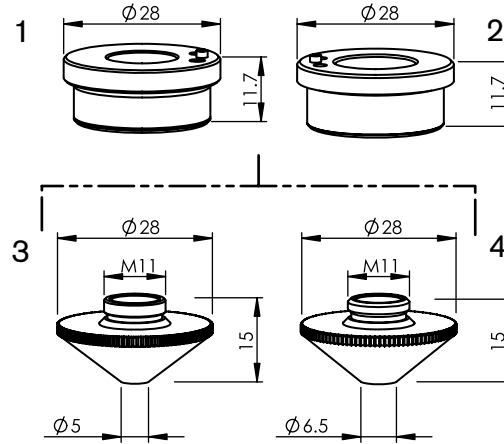
If you don't have access to a licensed industrial waste facility, and purchased your laser optics through Centricut, you may return them to Centricut for proper disposal. This service is only available to Centricut customers.

**All optics returned to Centricut must:**

- Include return authorization and invoice numbers
- Be sealed in a plastic bag to minimize any hazards
- Remove excess ZnSe powder prior to sealing

\*Acceptance of goods will be refused if not packaged correctly or if the return authorization number isn't included

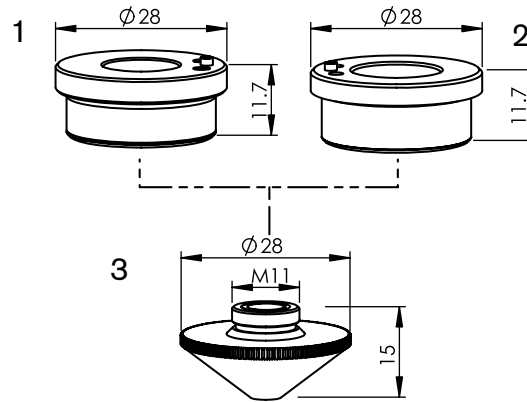




## Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT348-1051	AL355	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1052 <b>Recommended</b>	AL495	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1053	AL380	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2 Con	1
2	PT348-1330 <b>Recommended</b>	AL131	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-0260	AL421	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-13300EM	AL23	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
3	PT345-0008X	L30935		PT-Nozzle HD, 0.8 mm (10 pk)*	10
	PT345-1548X	L30234	281548, P0591-571-00010	PT-Nozzle HD, 1.0 mm (10 pk)*	10
	PT345-1549X	L30235	281549, P0591-572-00012	PT-Nozzle HD, 1.2 mm (10 pk)*	10
	PT345-1555X	L30824		PT-Nozzle HD, 1.4 mm (10 pk)*	10
	PT345-1463X	L30236	281463-P0591-573-00015	PT-Nozzle HD, 1.5 mm (10 pk)*	10
	PT345-0001X	L30237	P0591-574-00018	PT-Nozzle HD, 1.8 mm (10 pk)*	10
	PT345-1550X	L30238	281550, P0591-575-00020	PT-Nozzle HD, 2.0 mm (10 pk)*	10
	PT345-0003X	L30239		PT-Nozzle HD, 2.3 mm (10 pk)*	10
	PT345-1551X	L30240	281551, P0591-576-00025	PT-Nozzle HD, 2.5 mm (10 pk)*	10
	PT345-1552X	L30936		PT-Nozzle HD, 2.75 mm (10 pk)*	10
	PT345-0002X	L30241		PT-Nozzle HD, 3.0 mm (10 pk)*	10
	PT345-0005X	L30826		PT-Nozzle HD, 3.2 mm (10 pk)*	10
	PT345-0006X	L30827		PT-Nozzle HD, 3.5 mm (10 pk)*	10
	PT345-0004X	L30828		PT-Nozzle HD, 4.0 mm (10 pk)*	10
	PT345-0007X	L30829		PT-Nozzle HD, 4.5 mm (10 pk)*	10
	PT345-1547CPX	L30935X		PT-Nozzle HD, 0.8 mm CP (10 pk)*	10
	PT345-1548CPX	L30234X	281548, P0591-571-00010	PT-Nozzle HD, 1.0 mm CP (10 pk)*	10
	PT345-1549CPX	L30235X	281549, P0591-572-00012	PT-Nozzle HD, 1.2 mm CP (10 pk)*	10
	PT345-1555CPX	L30824X		PT-Nozzle HD, 1.4 mm CP (10 pk)*	10
	PT345-1463CPX	L30236X	281463-P0591-573-00015	PT-Nozzle HD, 1.5 mm CP (10 pk)*	10
	PT345-0001CPX	L30237X	P0591-574-00018	PT-Nozzle HD, 1.8 mm CP (10 pk)*	10
	PT345-1550CPX	L30238X	281550-P0591-575-00020	PT-Nozzle HD, 2.0 mm CP (10 pk)*	10
	PT345-0003CPX	L30239X		PT-Nozzle HD, 2.3 mm CP (10 pk)*	10
	PT345-1551CPX	L30240X	281551, P0591-576-00025	PT-Nozzle HD, 2.5 mm CP (10 pk)*	10
	PT345-0002CPX	L30241X		PT-Nozzle HD, 3.0 mm CP (10 pk)*	10
	PT345-0004CPX	L30828X		PT-Nozzle HD, 4.0 mm CP (10 pk)*	10
	PT345-0007CPX	L30829X		PT-Nozzle HD, 4.5 mm CP (10 pk)*	10
4	PT345-1936X	L301936		PT-Nozzle large head HD, 4.0 mm (10 pk)*	10
	PT345-1937X	L301937		PT-Nozzle large head HD, 4.5 mm (10 pk)*	10
	PT345-0830X	L30830		PT-Nozzle large head HD, 5.0 mm (10 pk)*	10
	PT345-1936CPX	L301936X		PT-Nozzle large head HD, 4.0 mm CP (10 pk)*	10
	PT345-1937CPX	L301937X		PT-Nozzle large head HD, 4.5 mm CP (10 pk)*	10

\*Available in single packs. To order single packs, remove the 'X' at the end of the part number (e.g. AM123-4567X would be AM123-4567)

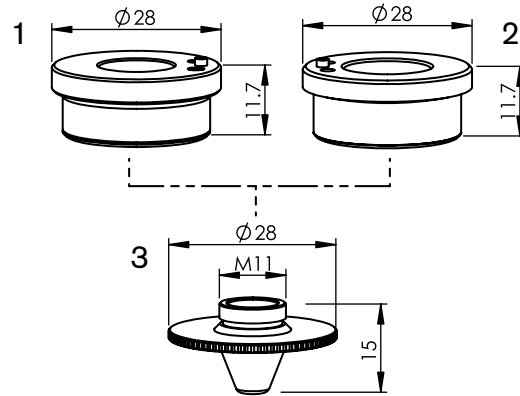


## Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT348-1051	AL355	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1052 <b>Recommended</b>	AL495	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1053	AL380	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2 Con	1
2	PT348-1330 <b>Recommended</b>	AL131	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-0260	AL421	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-13300EM	AL23	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
3	PT358-0691X	L30691		PT-Nozzle double, 0.9 mm/inner 1.5 mm (10 pk)*	10
	PT358-0010X	L30660		PT-Nozzle double, 1.0 mm/inner 1.5 mm (10 pk)*	10
	PT358-0112X	L30661-12		PT-Nozzle double, 1.2 mm/inner 1.2 mm (10 pk)*	10
	PT358-0125X	L30661	P0591-002-00012	PT-Nozzle double, 1.2 mm/inner 1.5 mm (10 pk)*	10
	PT358-0124X	L30672		PT-Nozzle double, 1.4 mm/inner 1.5 mm (10 pk)*	10
	PT358-0015X	L30662	P0591-002-00015	PT-Nozzle double, 1.5 mm/inner 1.5 mm (10 pk)*	10
	PT358-0018X	L30663	P0591-002-00018	PT-Nozzle double, 1.8 mm/inner 1.5 mm (10 pk)*	10
	PT358-0020X	L30664	P0591-002-00020	PT-Nozzle double, 2.0 mm/inner 1.5 mm	10
	PT358-0420X	L30664-20		PT-Nozzle double, 2.0 mm inner 2.0 mm (10 pk)*	10
	PT358-0620X	L30666-20		PT-Nozzle double, 2.5 mm/inner 2.0 mm (10 pk)*	10
	PT358-0720X	L30667-20		PT-Nozzle double, 3.0 mm/inner 2.0 mm (10 pk)*	10
	PT358-0023X	L30665		PT-Nozzle double, 2.3 mm/inner 1.5 mm (10 pk)*	10
	PT358-0007X	L30666		PT-Nozzle double, 2.5 mm/inner 1.5 mm (10 pk)*	10
	PT358-0030X	L30667		PT-Nozzle double, 3.0 mm/inner 1.5 mm (10 pk)*	10
	PT358-0035X	L30668		PT-Nozzle double, 3.5 mm/inner 1.5 mm (10 pk)*	10
	PT358-0010CPX	L30660X		PT-Nozzle double, 1.0 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0125CPX	L30661X		PT-Nozzle double, 1.2 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0124CPX	L30672X		PT-Nozzle double, 1.4 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0015CPX	L30662X		PT-Nozzle double, 1.5 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0018CPX	L30663X		PT-Nozzle double, 1.8 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0020CPX	L30664X		PT-Nozzle double, 2.0 mm/inner 1.5 mm	10
	PT358-0023CPX	L30665X		PT-Nozzle double, 2.3 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0025CPX	L30666X		PT-Nozzle double, 2.5 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0030CPX	L30667X		PT-Nozzle double, 3.0 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0035CPX	L30668X		PT-Nozzle double, 3.5 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0040X	L30840		PT-Nozzle double, 4.0 mm/inner 1.5 mm (10 pk)*	10
	PT358-0040CPX	L30840X		PT-Nozzle double, 4.0 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0045X	L30841		PT-Nozzle double, 4.5 mm/inner 1.5 mm (10 pk)*	10
	PT358-0045CPX	L30841X		PT-Nozzle double, 4.5 mm/inner 1.5 mm CP (10 pk)*	10
	PT358-0050X	L30861		PT-Nozzle double, 5.0 mm/inner 1.5 mm (10 pk)*	10
	PT358-1925	L1925		PT-Nozzle double Penta, 1.0 mm	1
	PT358-1926	L1926		PT-Nozzle double Penta, 1.2 mm	1
	PT358-1927	L1927		PT-Nozzle double Penta, 1.5 mm	1
	PT358-1928	L1928		PT-Nozzle double Penta, 2.0 mm	1
	PT358-1929	L1929		PT-Nozzle double Penta, 2.5 mm	1
	PT358-1930	L1930		PT-Nozzle double Penta, 3.0 mm	1
	PT358-1931	L1931		PT-Nozzle double Penta, 3.5 mm	1
	PT358-1932	L1932		PT-Nozzle double Penta, 4.0 mm	1
	PT358-1933	L1933		PT-Nozzle double Penta, 4.5 mm	1

\*Available in single packs. To order single packs, remove the 'X' at the end of the part number (e.g. AM123-4567X would be AM123-4567)

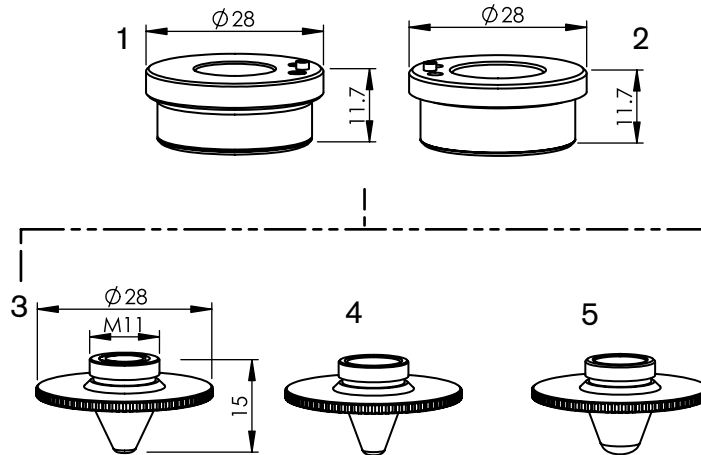
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### Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT348-1051	AL355	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1052 <b>Recommended</b>	AL495	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1053	AL380	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2 Con	1
2	PT348-1330 <b>Recommended</b>	AL131	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-0260	AL421	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-13300EM	AL23	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
3	PT350-1590X	L30247	281590, P0591-569-00008	PT-Nozzle, 0.8 mm (10 pk)*	10
	PT350-1331X	L30162	281331, P0591-561-00010	PT-Nozzle, 1.0 mm (10 pk)*	10
	PT350-1351X	L30130	281351, P0591-562-00012	PT-Nozzle, 1.2 mm (10 pk)*	10
	PT350-1352X	L30131	281352, P0591-563-00015	PT-Nozzle, 1.5 mm (10 pk)*	10
	PT350-1353X	L30153	281353, P0591-564-00018	PT-Nozzle, 1.8 mm (10 pk)*	10
	PT350-1354X	L30132	281354, P0591-565-00020	PT-Nozzle, 2.0 mm (10 pk)*	10
	PT350-0023X	L30154		PT-Nozzle, 2.3 mm (10 pk)*	10
	PT350-1591X	L30155	281591, P0591-566-00025	PT-Nozzle, 2.5 mm (10 pk)*	10
	PT350-0030X	L30156		PT-Nozzle, 3.0 mm (10 pk)*	10
	PT350-1590CPX	L30247X	281590, P0591-569-00008	PT-Nozzle, 0.8 mm CP (10 pk)*	10
	PT350-1331CPX	L30162X	281331, P0591-561-00010	PT-Nozzle, 1.0 mm CP (10 pk)*	10
	PT350-1351CPX	L30130X	281351, P0591-562-00012	PT-Nozzle, 1.2 mm CP (10 pk)*	10
	PT350-1352CPX	L30131X	281352, P0591-563-00015	PT-Nozzle, 1.5 mm CP (10 pk)*	10
	PT350-0001CPX	L30248X		PT-Nozzle, 1.7 mm CP (10 pk)*	10
	PT350-1353CPX	L30153X	281353, P0591-564-00018	PT-Nozzle, 1.8 mm CP (10 pk)*	10
	PT350-1354CPX	L30132X	281354, P0591-565-00020	PT-Nozzle, 2.0 mm CP (10 pk)*	10
	PT350-0002CPX	L30154X		PT-Nozzle, 2.3 mm CP (10 pk)*	10
	PT350-1591CPX	L30155X	281591, P0591-566-00025	PT-Nozzle, 2.5 mm CP (10 pk)*	10
	PT350-0003CPX	L30156X		PT-Nozzle, 3.0 mm CP (10 pk)*	10

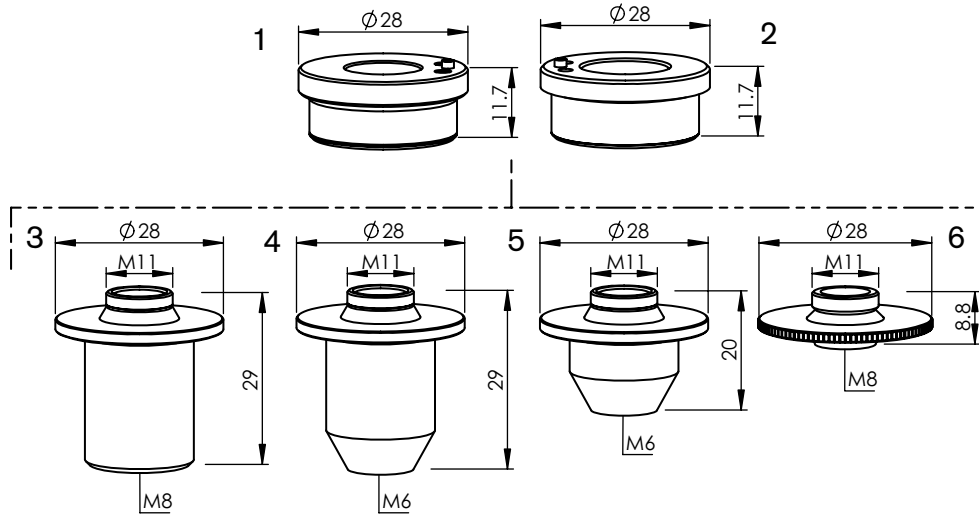
\*Available in single packs. To order single packs, remove the 'X' at the end of the part number (e.g. AM123-4567X would be AM123-4567)



## Consumables

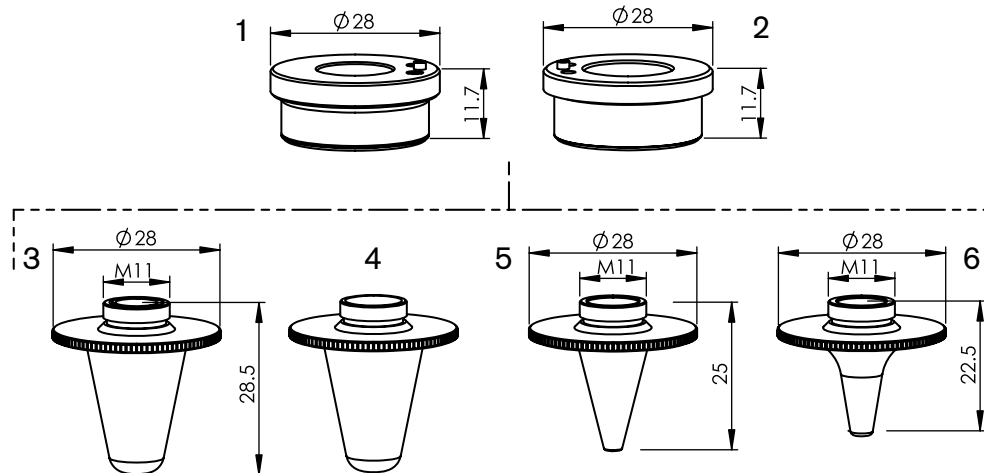
	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT348-1051	AL355	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1052 <b>Recommended</b>	AL495	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1053	AL380	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2 Con	1
2	PT348-1330 <b>Recommended</b>	AL131	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-0260	AL421	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-1330OEM	AL23	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
3	PT358-0001	L1348	6930250001	PT-Nozzle double 3D, 0.8 mm/inner 1.5 mm	1
	PT358-0002	L1349	6930250002	PT-Nozzle double 3D, 1.0 mm/inner 1.5 mm	1
	PT358-0003	L1350	6930250003	PT-Nozzle double 3D, 1.2 mm/inner 1.5 mm	1
	PT358-0004	L1351	6930250004	PT-Nozzle double 3D, 1.5 mm/inner 1.5 mm	1
	PT358-0005	L1470		PT-Nozzle double 3D, 1.8 mm/inner 1.5 mm	1
	PT358-0002CP	L1349X		PT-Nozzle double 3D, 1.0 mm/inner 1.5 mm CP	1
	PT358-0003CP	L1350X		PT-Nozzle double 3D, 1.2 mm/inner 1.5 mm CP	1
	PT358-0004CP	L1351X		PT-Nozzle double 3D, 1.5 mm/inner 1.5 mm CP	1
	PT358-0005CP	L1470X		PT-Nozzle double 3D, 1.8 mm/inner 1.5 mm CP	1
4	PT406-0799	L799		PT-Nozzle HD, 0.8 mm	1
	PT406-0001	L738		PT-Nozzle HD, 1.0 mm	1
	PT406-0002	L739		PT-Nozzle HD, 1.2 mm	1
	PT406-0003	L740		PT-Nozzle HD, 1.5 mm	1
5	PT406-0008	L792		PT-Nozzle, 0.8 mm	1
	PT406-0010	L793		PT-Nozzle, 1.0 mm	1
	PT406-0125	L794		PT-Nozzle, 1.2 mm	1
	PT406-0015	L742	P0591-1049-00015	PT-Nozzle, 1.5 mm	1
	PT406-0018	L743	P0591-1050-00018	PT-Nozzle, 1.8 mm	1
	PT406-0020	L744		PT-Nozzle, 2.0 mm	1





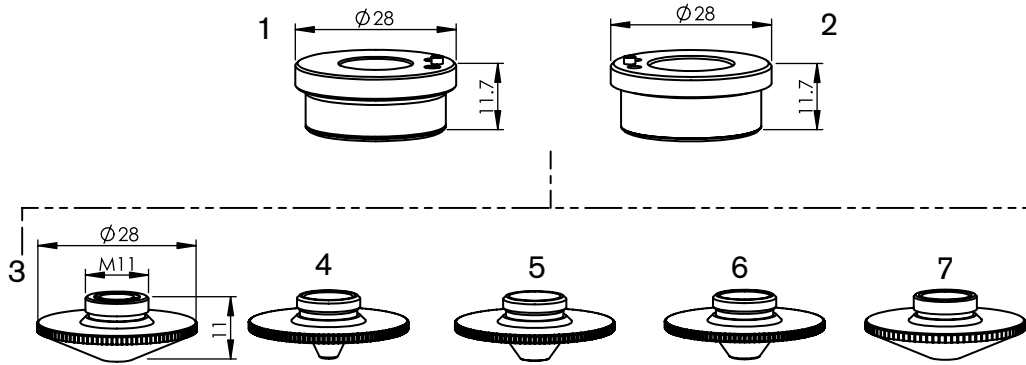
### Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT348-1051	AL355	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1052 <b>Recommended</b>	AL495	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1053	AL380	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2 Con	1
2	PT348-1330 <b>Recommended</b>	AL131	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-0260	AL421	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-13300EM	AL23	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
3	PT406-0333	AL333		PT-Nozzle adapter, L=29 M8	1
4	PT406-0334	AL334		PT-Nozzle adapter, L=30 M6	1
5	PT406-0335	AL335		PT-Nozzle adapter, L=20 M6	1
6	PT406-0043	AL43		PT-Nozzle adapter	1



### Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT348-1051	AL355	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1052 <b>Recommended</b>	AL495	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1053	AL380	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2 Con	1
2	PT348-1330 <b>Recommended</b>	AL131	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-0260	AL421	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-13300EM	AL23	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
3	PT420-0010	L680		PT-Nozzle double long, 1.0 mm	1
	PT420-0125	L681		PT-Nozzle double long, 1.2 mm	1
	PT420-0015	L682		PT-Nozzle double long, 1.5 mm	1
	PT420-0018	L683		PT-Nozzle double long, 1.8 mm	1
	PT420-0020	L684		PT-Nozzle double long, 2.0 mm	1
	PT420-0023	L685		PT-Nozzle double long, 2.3 mm	1
	PT420-0025	L686		PT-Nozzle double long, 2.5 mm	1
	PT420-0030	L687		PT-Nozzle double long, 3.0 mm	1
	PT420-0035	L688		PT-Nozzle double long, 3.5 mm	1
4	PT390-0010	L308	P0573-563-00010	PT-Nozzle long, 1.0 mm	1
	PT390-0012	L307	P0573-563-00012	PT-Nozzle long, 1.2 mm	1
	PT390-0015	L382	P0573-563-00015	PT-Nozzle long, 1.5 mm	1
	PT390-0018	L383		PT-Nozzle long, 1.8 mm	1
	PT390-0020	L437	P0573-564-00020	PT-Nozzle long, 2.0 mm	1
	PT390-0025	L439	P0573-566-00025	PT-Nozzle long, 2.5 mm	1
	PT390-0030	L440		PT-Nozzle long, 3.0 mm	1
5	PT390-0001	L1341		PT-Nozzle long, 1.0 mm	1
	PT390-0002	L1343		PT-Nozzle long, 1.5 mm	1
	PT390-0003	L1344		PT-Nozzle long, 1.8 mm	1
	PT390-0004	L1345		PT-Nozzle long, 2.0 mm	1
6	PT390-0040	L1374	P0578-0411-00010	PT-Nozzle radius long, 1.0 mm	1
	PT390-0005	L1375	P0578-0412-00012	PT-Nozzle radius long, 1.2 mm	1
	PT390-0006	L1376	P0578-0413-00015, 6930300039	PT-Nozzle radius long, 1.5 mm	1
	PT390-0009	L1373	P0578-0414-00018	PT-Nozzle radius long, 1.8 mm	1
	PT390-0007	L1377	P0578-0415-00020, 6930300040	PT-Nozzle radius long, 2.0 mm	1
	PT390-0008	L1378	P0578-0417-00025	PT-Nozzle radius long, 2.5 mm	1
	PT390-0005CP	L1375X		PT-Nozzle radius long, 1.2 mm CP	1
	PT390-0006CP	L1376X		PT-Nozzle radius long, 1.5 mm CP	1
	PT390-0007CP	L1377X		PT-Nozzle radius long, 2.0 mm CP	1



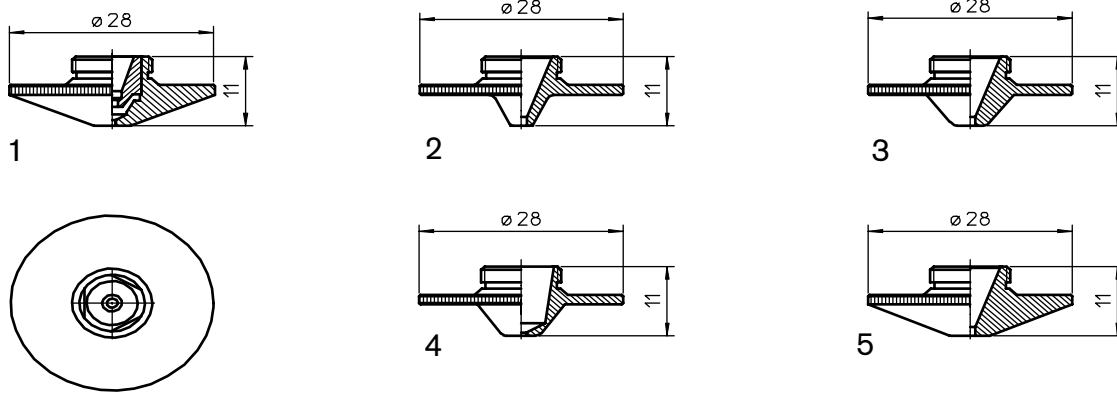
## Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT348-1051	AL355	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1052 <b>Recommended</b>	AL495	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1053	AL380	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2 Con	1
2	PT348-1330 <b>Recommended</b>	AL131	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-0260	AL421	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-13300EM	AL23	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
3	PT377-0001	L1179		PT-Nozzle double, 1.0 mm/inner 1.5 mm	1
	PT377-0002	L1180		PT-Nozzle double, 1.5 mm/inner 1.5 mm	1
	PT377-0003	L1181		PT-Nozzle double, 2.0 mm/inner 1.5 mm	1
	PT377-0004	L1182		PT-Nozzle double, 2.5 mm/inner 1.5 mm	1
	PT377-0005	L1183		PT-Nozzle double, 3.0 mm/inner 1.5 mm	1
	PT377-0001CP	L1179X		PT-Nozzle double, 1.0 mm/inner 1.5 mm CP	1
	PT377-1160CP	L1160X		PT-Nozzle double, 1.2 mm/inner 1.5 mm CP	1
	PT377-1161CP	L1161X		PT-Nozzle double, 1.4 mm/inner 1.5 mm CP	1
	PT377-0002CP	L1180X		PT-Nozzle double, 1.5 mm/inner 1.5 mm CP	1
	PT377-1162CP	L1162X		PT-Nozzle double, 1.8 mm/inner 1.5 mm CP	1
	PT377-0003CP	L1181X		PT-Nozzle double, 2.0 mm/inner 1.5 mm	1
	PT377-0004CP	L1182X		PT-Nozzle double, 2.5 mm/inner 1.5 mm CP	1
	PT377-0005CP	L1183X		PT-Nozzle double, 3.0 mm/inner 1.5 mm CP	1
	PT377-1184CP	L1184X		PT-Nozzle double, 3.5 mm/inner 1.5 mm CP	1
4	PT348-0001	L1218		PT-Nozzle HD, 1.5 mm	1
	PT348-0002	L1219		PT-Nozzle HD, 2.0 mm	1
	PT348-0003	L1220		PT-Nozzle HD, 2.5 mm	1
	PT348-0002CP	L1219X		PT-Nozzle HD, 2.0 mm CP	1
	PT348-0003CP	L1220X		PT-Nozzle HD, 2.5 mm CP	1
5	PT348-0010	L1060		PT-Nozzle HD, 1.0 mm	1
	PT348-0012	L1061		PT-Nozzle HD, 1.2 mm	1
	PT348-0015	L1062		PT-Nozzle HD, 1.5 mm	1
	PT348-0020	L1063		PT-Nozzle HD, 2.0 mm	1
	PT348-0025	L1064		PT-Nozzle HD, 2.5 mm	1
	PT348-0030	L1065		PT-Nozzle HD, 3.0 mm	1
	PT348-1086	L1086		PT-Nozzle HD, 3.5 mm	1
	PT348-1087	L1087		PT-Nozzle HD, 4.0 mm	1
	PT348-1088	L1088		PT-Nozzle HD, 4.5 mm	1
	PT348-1089	L1089		PT-Nozzle HD, 5.0 mm	1



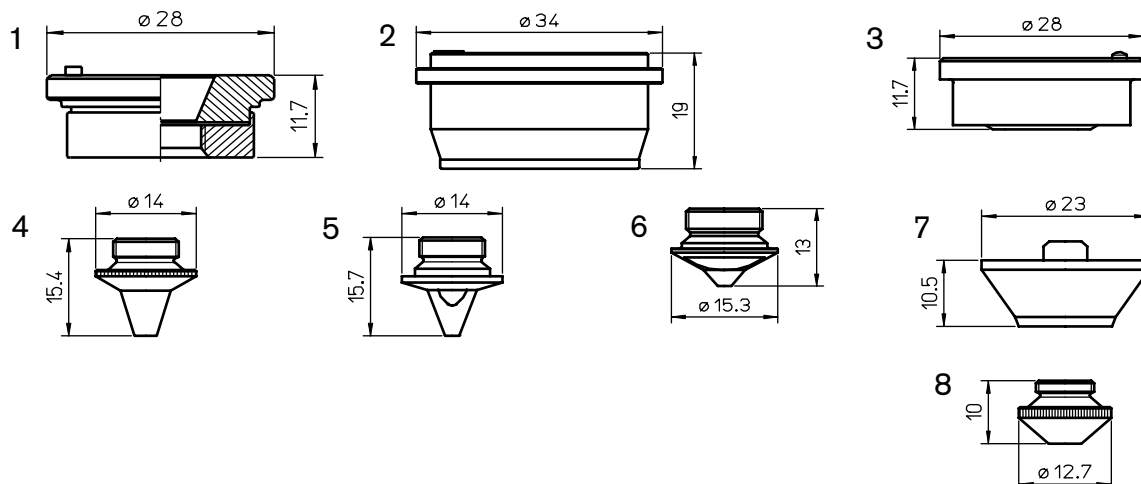
## Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
6	PT348-1340	L410	281340, P0571-281-00010	PT-Nozzle, 1.0 mm	1
	PT348-1341	L411	281341, P0571-282-00012	PT-Nozzle, 1.2 mm	1
	PT348-1342	L412	281342, P0571-283-00015	PT-Nozzle, 1.5 mm	1
	PT348-0018	L413	281342, P0571-284-00018	PT-Nozzle, 1.8 mm	1
	PT348-1343	L414	281343, P0571-285-00020	PT-Nozzle, 2.0 mm	1
	PT348-1344	L415	281344, P0571-286-00025	PT-Nozzle, 2.5 mm	1
7	PT377-0010	L465	281599, P0571-291-00010	PT-Nozzle, 1.0 mm	1
	PT377-0012	L466	P0571-292-00012	PT-Nozzle, 1.2 mm	1
	PT377-0015	L467	281570, P0571-293-00015	PT-Nozzle, 1.5 mm	1
	PT377-0018	L468		PT-Nozzle, 1.8 mm	1
	PT377-0020	L469	281571, P0571-295-00020	PT-Nozzle, 2.0 mm	1
	PT377-0025	L470	281572, P0571-297-00025	PT-Nozzle, 2.5 mm	1
	PT377-0030	L463		PT-Nozzle, 3.0 mm	1



### Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT377-0001	L1179		PT-Nozzle double, 1.0 mm/inner 1.5 mm	1
	PT377-0002	L1180		PT-Nozzle double, 1.5 mm/inner 1.5 mm	1
	PT377-0003	L1181		PT-Nozzle double, 2.0 mm/inner 1.5 mm	1
	PT377-0004	L1182		PT-Nozzle double, 2.5 mm/inner 1.5 mm	1
	PT377-0005	L1183		PT-Nozzle double, 3.0 mm/inner 1.5 mm	1
	PT377-0001CP	L1179X		PT-Nozzle double, 1.0 mm/inner 1.5 mm CP	1
	PT377-1160CP	L1160X		PT-Nozzle double, 1.2 mm/inner 1.5 mm CP	1
	PT377-1161CP	L1161X		PT-Nozzle double, 1.4 mm/inner 1.5 mm CP	1
	PT377-0002CP	L1180X		PT-Nozzle double, 1.5 mm/inner 1.5 mm CP	1
	PT377-1162CP	L1162X		PT-Nozzle double, 1.8 mm/inner 1.5 mm CP	1
	PT377-0003CP	L1181X		PT-Nozzle double, 2.0 mm/inner 1.5 mm	1
	PT377-0004CP	L1182X		PT-Nozzle double, 2.5 mm/inner 1.5 mm CP	1
	PT377-0005CP	L1183X		PT-Nozzle double, 3.0 mm/inner 1.5 mm CP	1
	PT377-1184CP	L1184X		PT-Nozzle double, 3.5 mm/inner 1.5 mm CP	1
2	PT348-0001	L1218		PT-Nozzle HD, 1.5 mm	1
	PT348-0002	L1219		PT-Nozzle HD, 2.0 mm	1
	PT348-0003	L1220		PT-Nozzle HD, 2.5 mm	1
	PT348-0002CP	L1219X		PT-Nozzle HD, 2.0 mm CP	1
	PT348-0003CP	L1220X		PT-Nozzle HD, 2.5 mm CP	1
3	PT348-0010	L1060		PT-Nozzle HD, 1.0 mm	1
	PT348-0012	L1061		PT-Nozzle HD, 1.2 mm	1
	PT348-0015	L1062		PT-Nozzle HD, 1.5 mm	1
	PT348-0020	L1063		PT-Nozzle HD, 2.0 mm	1
	PT348-0025	L1064		PT-Nozzle HD, 2.5 mm	1
	PT348-0030	L1065		PT-Nozzle HD, 3.0 mm	1
	PT348-1086	L1086		PT-Nozzle HD, 3.5 mm	1
	PT348-1087	L1087		PT-Nozzle HD, 4.0 mm	2
	PT348-1088	L1088		PT-Nozzle HD, 4.5 mm	3
	PT348-1089	L1089		PT-Nozzle HD, 5.0 mm	4
4	PT348-1340	L410	281340, P0571-281-00010	PT-Nozzle, 1.0 mm	1
	PT348-1341	L411	281341, P0571-282-00012	PT-Nozzle, 1.2 mm	1
	PT348-1342	L412	281342, P0571-283-00015	PT-Nozzle, 1.5 mm	1
	PT348-0018	L413	281342, P0571-284-00018	PT-Nozzle, 1.8 mm	1
	PT348-1343	L414	281343, P0571-285-00020	PT-Nozzle, 2.0 mm	1
	PT348-1344	L415	281344, P0571-286-00025	PT-Nozzle, 2.5 mm	1
5	PT377-0010	L465	281599, P0571-291-00010	PT-Nozzle, 1.0 mm	1
	PT377-0012	L466	P0571-292-00012	PT-Nozzle, 1.2 mm	1
	PT377-0015	L467	281570, P0571-293-00015	PT-Nozzle, 1.5 mm	1
	PT377-0018	L468		PT-Nozzle, 1.8 mm	1
	PT377-0020	L469	281571, P0571-295-00020	PT-Nozzle, 2.0 mm	1
	PT377-0025	L470	281572, P0571-297-00025	PT-Nozzle, 2.5 mm	1
	PT377-0030	L463		PT-Nozzle, 3.0 mm	1

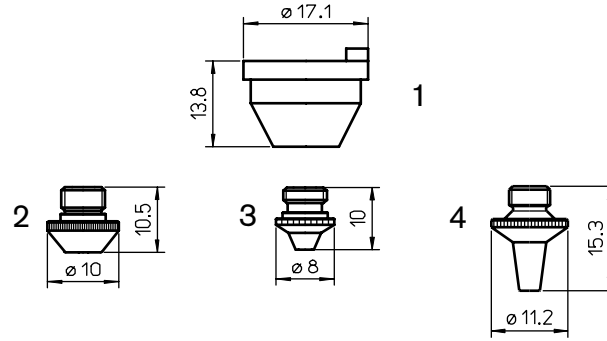


### Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT348-1330C	AL331	281330, P0571-260-00001, 6930281330	PT-Nozzle holder, ceramic	1
2	PT348-1001	AL228		PT-Nozzle holder	1
3	PT348-1518	AL141	281518, P0571-265-00001	PT-Nozzle holder IT B2" Z, aluminum	1
4	PT344-1813X	L30405	281813, P0589-424-00008	PT-Nozzle, 0.8 mm (10 pk)*	10
	PT344-1789X	L30406	281789, P0589-426-00010	PT-Nozzle, 1.0 mm (10 pk)*	10
	PT344-1561X	L30404	281561, 778550	PT-Nozzle, 1.2 mm (10 pk)*	10
	PT344-1499X	L30407	281814, 149957	PT-Nozzle, 1.5 mm (10 pk)*	10
	PT344-0020X	L30408	P0589-428-00020	PT-Nozzle, 2.0 mm (10 pk)*	10
	PT344-1791		281791, P0492-446-00025, W226	PT-Nozzle FP, 2.5 mm	1
<b>YK52 Sensor system</b>					
5	PT391-0010X	L30800	281498, P0587-722-00010	PT-Nozzle, 1.0 mm (10 pk)*	10
	PT391-0012X	L30801	P0587-723-00012	PT-Nozzle, 1.2 mm (10 pk)*	10
	PT391-0015X	L30802	281497, P0587-721-00015	PT-Nozzle, 1.5 mm (10 pk)*	10
	PT391-0018X	L30803	281516, P0587-737-00018	PT-Nozzle, 1.8 mm (10 pk)*	10
	PT391-0020X	L30804	281567, P0587-771-00020	PT-Nozzle, 2.0 mm (10 pk)*	10
	PT391-0025X	L30805	P0587-772-00025	PT-Nozzle, 2.5 mm (10 pk)*	10
6	PT401-1008	L1012	P0587-842-00008	PT-Nozzle, 0.8 mm	1
	PT401-0010	L1013	P0587-841-00010	PT-Nozzle, 1.0 mm	1
7	PT344-1079	AL138	281079, P0492-430-00003, W149	PT-Nozzle Holder KT M1.5" S F2.5" OEM	1
8	PT344-0013X	L30400	280013, P0492-441-00008, W222	PT-Nozzle FP, 0.8 mm (10 pk)*	10
	PT344-0014X	L30401		PT-Nozzle FP, 1.0 mm (10 pk)*	10
	PT344-0015X	L30402	280015, P0492-443-00012	PT-Nozzle FP, 1.2 mm (10 pk)*	10
	PT344-0016X	L30403X		PT-Nozzle FP, 1.5 mm (10 pk)*	10
	PT344-0018X	L30543	P0492-447-00018	PT-Nozzle FP, 1.8 mm (10 pk)*	10
	PT344-0937X	L30544		PT-Nozzle FP, 3.0 mm (10 pk)*	10
	PT344-1791X	L30545		PT-Nozzle FP, 2.5 mm (10 pk)*	10
	PT344-0027X	L30547		PT-Nozzle FP, 3.0 mm (10 pk)*	10
	PT344-0010CPX	L30401X	280014, P0492-442-00010, W223	PT-Nozzle FP, 1.0 mm CP (10 pk)*	10
	PT344-0015CPX	L30403X	280016, P0492-444-00015, W224	PT-Nozzle FP, 1.5 mm CP (10 pk)*	10
	PT344-0022CPX	L30544X	280937, P0492-445-00020, W225	PT-Nozzle FP, 2.0 mm CP (10 pk)*	10

\*Available in single packs. To order single packs, remove the 'X' at the end of the part number (e.g. AM123-4567X would be AM123-4567)

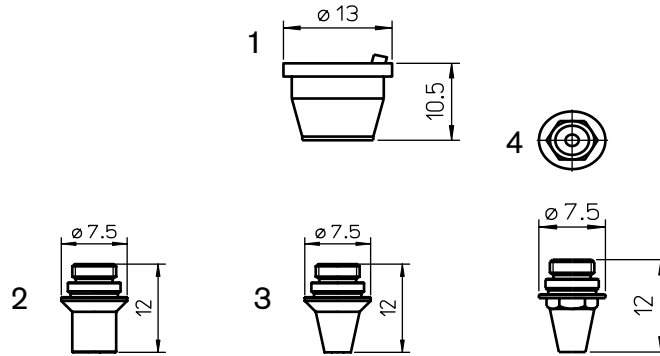




## Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	TR302-2405	AL53	280408, 092405	TR-Nozzle holder KT M1.5" KN OEM	1
2	PT344-0551X	L30292	280551, P0494-853-00010	PT-Nozzle, 1.0 mm (10 pk)*	10
	PT344-0552X	L30293	280552, P0494-854-00012	PT-Nozzle, 1.2 mm (10 pk)*	10
	PT344-0553X	L30294	280553, P0494-855-00015	PT-Nozzle, 1.5 mm (10 pk)*	10
	PT344-0554X	L30295	280553, P0494-856-00017	PT-Nozzle, 1.7 mm (10 pk)*	10
	PT344-0555X	L30296	280555, P0494-855-00020	PT-Nozzle, 2.0 mm (10 pk)*	10
	PT344-9023X	L30372		PT-Nozzle, 2.3 mm (10 pk)*	10
	PT344-9025X	L30371		PT-Nozzle, 2.5 mm (10 pk)*	10
	PT344-0030X	L30304		PT-Nozzle, 3.0 mm (10 pk)*	10
	PT344-0400X	L30303		PT-Nozzle, 4.0 mm (10 pk)*	10
	<b>DE M 1.5"</b>				
3	PT379-0010X	L301055	280943, P0494-787-00010	PT-Nozzle KN TAK, 1.0 mm (10 pk)*	10
	PT379-0012X	L301056	280942, P0494-788-00012	PT-Nozzle KN TAK, 1.2 mm (10 pk)*	10
	PT379-0015X	L301057	280941, P0494-789-00015	PT-Nozzle KN TAK, 1.5 mm (10 pk)*	10
	PT379-0018X	L301058		PT-Nozzle KN TAK, 1.8 mm (10 pk)*	10
	PT379-0020X	L301059		PT-Nozzle KN TAK, 2.0 mm (10 pk)*	10
	<b>DE Y 30/22</b>				
4	PT344-1980X	L301980	P0787-482-00012	PT-Nozzle DE Y30/22 F100, 1.2 mm (10 pk)*	10
	PT344-1981X	L301981	P0787-483-00015	PT-Nozzle DE Y30/22 F10, 1.5 mm (10 pk)*	10
	PT344-1983X <b>NEW</b>	L301983	P0787-1001-00020	PT-Nozzle DE, 2.0 mm (10 pack)*	10
	PT344-1984X <b>NEW</b>	L301984		PT-Nozzle DE, 2.5 mm (10 pack)*	10

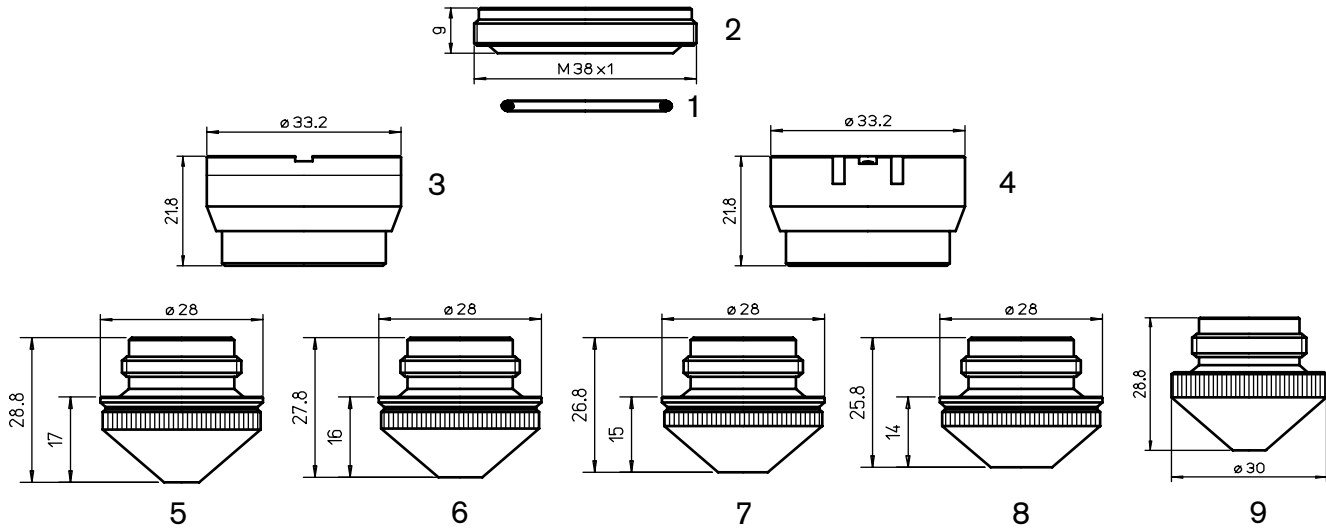
\*Available in single packs. To order single packs, remove the 'X' at the end of the part number (e.g. AM123-4567X would be AM123-4567)



### Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT347-0110		P0491-130-00001	PT-Nozzle holder KT M1.5" K S OEM, ceramic	1
2	PT347-1034X	L30481	281034, P0352-324-00012	PT-Nozzle ZK, 1.2 mm (10 pk)*	10
	PT347-1013X	L30482	281013, P0352-325-00015	PT-Nozzle ZK, 1.5 mm (10 pk)*	10
	PT347-0899X	L30483	280899, P0352-326-00018	PT-Nozzle ZK, 1.8 mm (10 pk)*	10
	PT347-0044-3	L484	350044.3, P0352-327-00020	PT-Nozzle ZK, 2.0 mm	1
	PT347-0044X	L30484	350044.3, P0352-327-00020	PT-Nozzle ZK, 2.0 mm (10 pk)*	10
	PT347-1025X	L30485	350044.3, P0352-328-00025	PT-Nozzle ZK, 2.5 mm (10 pk)*	10
3	PT347-1006X	L30486	281006, P0352-333-00010	PT-Nozzle KK, 1.0 mm (10 pk)*	10
	PT347-1030X	L30487	281030, P0352-334-00012	PT-Nozzle KK, 1.2 mm (10 pk)*	10
	PT347-1031X	L30488	281031, P0352-335-00015	PT-Nozzle KK, 1.5 mm (10 pk)*	10
	PT347-0898X	L30489	280898, P0352-336-00018	PT-Nozzle KK, 1.8 mm (10 pk)*	10
	PT347-1020X	L30490	P0352-336-00020	PT-Nozzle KK, 2.0 mm (10 pk)*	10
	PT347-1761	L1761	P0491-1001-00015	PT-Nozzle hexagonal DE M1.5 KS, 1.2 mm	1
	PT347-1762	L1762	P0491-1001-00015	PT-Nozzle hexagonal DE M1.5 KS, 1.5 mm	1
	PT347-1764	L1764	P0491-1002-00020	PT-Nozzle hexagonal DE M1.5 KS, 2.0 mm	1
	PT347-1760X	L301760	P0491-1001-00015	PT-Nozzle hexagonal DE M1.5 KS, 1.0 mm (10 pk)*	1
	PT347-1761X	L301761	P0491-1002-00020	PT-Nozzle hexagonal DE M1.5 KS, 1.2 mm (10 pk)*	1
	PT347-1762X	L301762	L301762	PT-Nozzle hexagonal DE M1.5 KS, 1.5 mm (10 pk)*	1
	PT347-1764X	L301764	L301764	PT-Nozzle hexagonal DE M1.5 KS, 2.0 mm (10 pk)*	1

\*Available in single packs. To order single packs, remove the 'X' at the end of the part number (e.g. AM123-4567X would be AM123-4567)



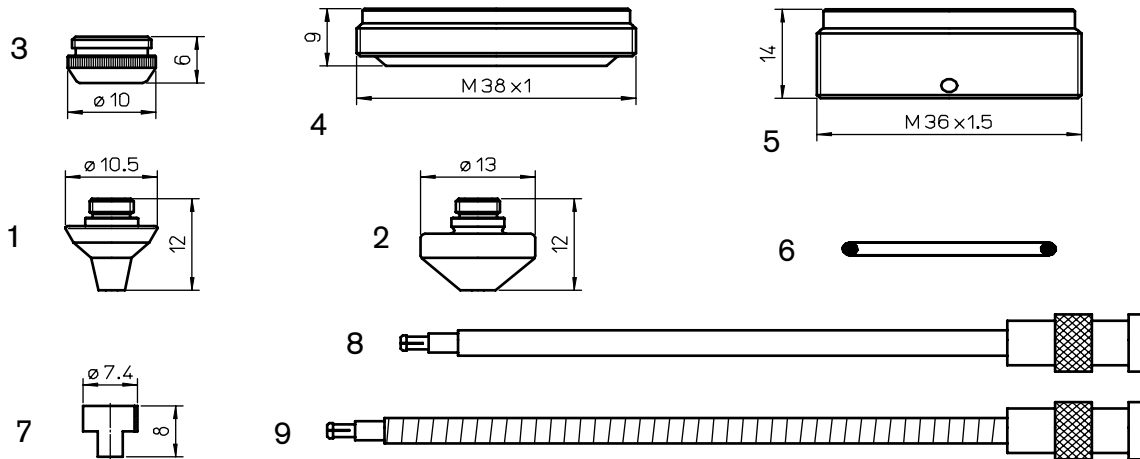
### Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	AM326-6453	AL94	71366453	AM-O-ring for outer nozzle	1
2	PT311-0001	AL201	P0492-702-00002	PT-Insulating ring	1
	PT347-4297	AL198	P0492-702-00001, 29100021	PT-Insulating ring outer body	1
3	PT311-0298	AL298	P0497-68871	PT-Nozzle holder KTM 1.5" DXN, ceramic	1
4	PT311-1146 <b>Recommended</b>	AL130/S	281146, P0380-211-00001, 29100033	PT-Nozzle holder ITM 1.5" DZ	1
	PT311-1146OEM	AL130	281146, P0380-211-00001, 29100033	PT-Nozzle holder ITM 1.5" DZ OEM	1
5	PT376-0010	L365	280029, P0492-628-00010	PT-Nozzle, 1.0 mm	1
	PT376-0012	L366	280030, P0492-629-00012	PT-Nozzle, 1.2 mm	1
6	PT376-0015	L367	280028, P0492-627-00015	PT-Nozzle, 1.5 mm	1
7	PT376-0017	L368	281384, P0492-630-00017	PT-Nozzle, 1.7 mm	1
	PT376-0020	L369	280027, P0492-626-00020	PT-Nozzle, 2.0 mm	1
8	PT376-0025	L370	280026, P0492-625-00025	PT-Nozzle, 2.5 mm	1
9	PT311-0012	L164	281254, P0380-252-00012	PT-Nozzle, 1.2 mm	1
	PT311-0015	L165	281255, P0380-253-00015	PT-Nozzle, 1.5 mm	1
	PT311-0020	L166	281270, P0380-254-00020	PT-Nozzle, 2.0 mm	1
	PT311-0025	L167	281271, P0380-255-00025	PT-Nozzle, 2.5 mm	1
	PT311-0027	L462	281271-2.7	PT-Nozzle, 2.7 mm	1
	PT311-0030	L201	281271-3.0	PT-Nozzle, 3.0 mm	1

\*Available in single packs. To order single packs, remove the 'X' at the end of the part number (e.g. AM123-4567X would be AM123-4567)



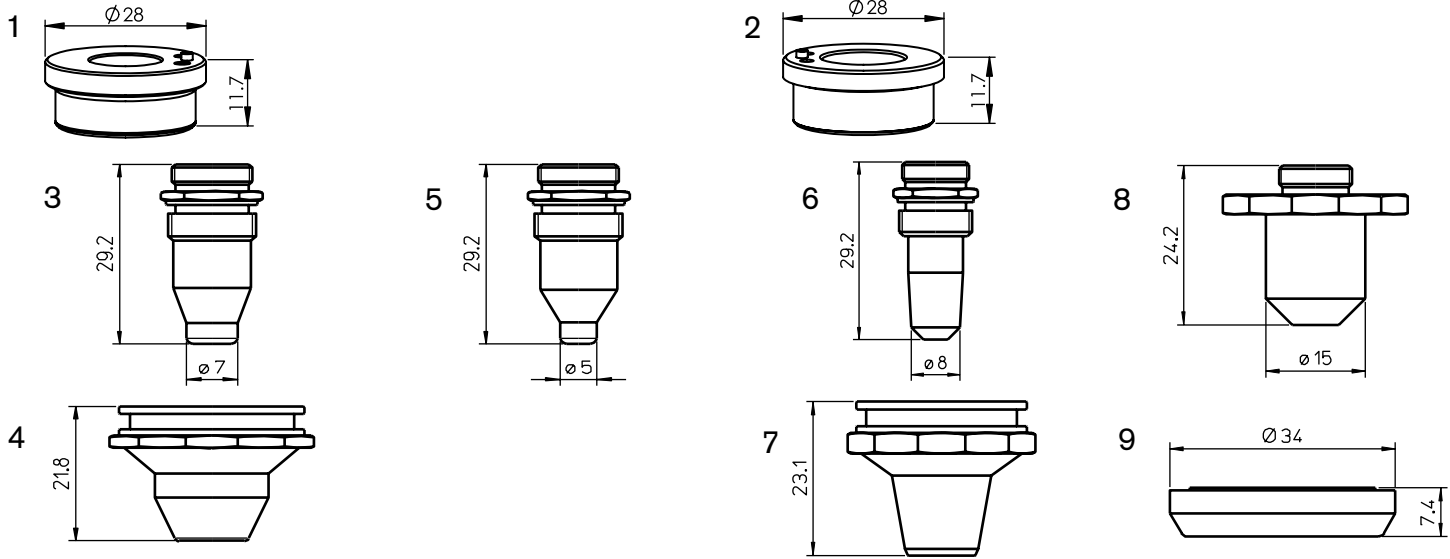
For Adige and Mazak systems



## Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT347-0005	L554	46713300290-10	PT-Nozzle 3D, 1.0 mm	1
	PT347-0290-1.2	L555	46713300290-12	PT-Nozzle 3D, 1.2 mm	1
	PT347-0090X	L30555	46713300290-12	PT-Nozzle 3D, 1.2 mm (10 pk)*	10
	PT347-0290X	L30556	46713300290-15, P0352-381-00015	PT-Nozzle 3D, 1.5 mm (10 pk)*	10
	PT347-0118X	L30557	P0352-377-00018	PT-Nozzle 3D, 1.8 mm (10 pk)*	10
	PT347-0280X	L30558	46713300310, P0352-382-00020	PT-Nozzle 3D, 2.0 mm (10 pk)*	10
	PT347-0001X	L30560	46713300280-25	PT-Nozzle 3D, 2.5 mm (10 pk)*	10
	PT347-0002X	L30563	46713300280-30, 46713300430	PT-Nozzle 3D, 3.0 mm (10 pk)*	10
	PT347-0035X	L30564	46713300280-35	PT-Nozzle 3D, 3.5 mm (10 pk)*	10
2	PT347-0004X	L30576		PT-Nozzle 2D, 1.0 mm (10 pk)*	10
	PT347-0310-1.2	L577	46713300310	PT-Nozzle 2D, 1.2 mm	1
	PT347-0012X	L30577	46713300310	PT-Nozzle 2D, 1.2 mm (10 pk)*	10
	PT347-0310X	L30578	P0352-386-00015	PT-Nozzle 2D, 1.5 mm (10 pk)*	10
	PT347-0300X	L30580	46713300300, P0352-387-00020	PT-Nozzle 2D, 2.0 mm (10 pk)*	10
	PT347-0003X	L30581	46713300300-25	PT-Nozzle 2D, 2.5 mm (10 pk)*	10
	PT347-0006X	L30582	46713300300-30	PT-Nozzle 2D, 3.0 mm (10 pk)*	10
3	PT347-0320	AL160	46713300321, P0352-311-00001	PT-Union nut, Vespel	1
4	PT347-4297	AL198	P0492-702-00001, 29100021	PT-Insulating ring outer body	1
5	PT347-0008	AL218	46713300200	PT-Isolating ring outer body (Precitec)	1
6	AM326-6453	AL94	71366453	AM-O-ring for outer nozzle	1
7	PT347-0009	AL256	46713300390	PT-Connector protector	1
8	PT347-0101	AL204	P0360-100-00500, 46713300100	PT-Sensor head connecting cable OEM	1
9	PT347-1386	AL257	281386, P0360-155-00500	PT-Electrode cable	1

\*Available in single packs. To order single packs, remove the 'X' at the end of the part number (e.g. AM123-4567X would be AM123-4567)



### Consumables

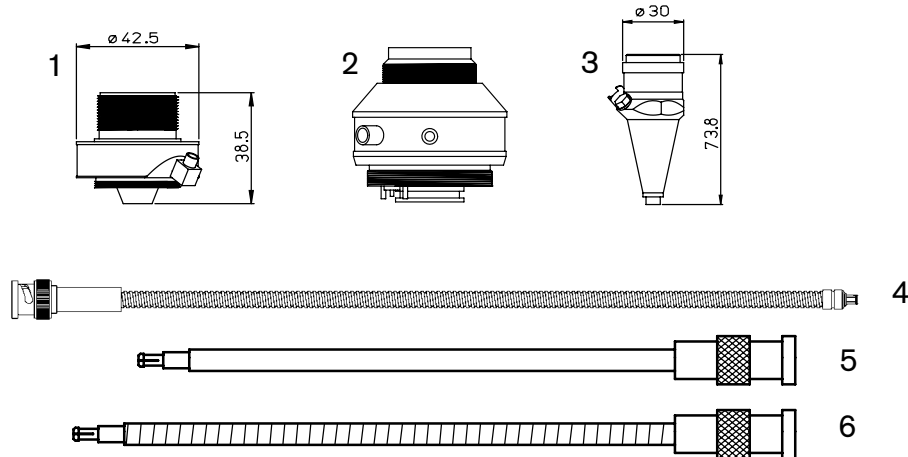
	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
1	PT348-1051	AL355	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1052 <b>Recommended</b>	AL495	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2" Con	1
	PT348-1053	AL380	P0571-1051-00001, 6930281333	PT-Nozzle holder KT B2 Con	1
2	PT348-1330 <b>Recommended</b>	AL131	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-0260	AL421	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
	PT348-13300EM	AL23	281330, P0571-260-00001, 6930281330	PT-Nozzle holder KT B2	1
3	PT348-4175	L1547	20054175	PT-Nozzle, 1.9 mm	1
4	PT348-4176	AL415	20054176	PT-Nozzle outer, 8.0 mm	1
5	PT348-5175	L1595		PT-Nozzle, 1.7 mm	1
6	PT348-0414	AL414		PT-Nozzle outer, 7.0 mm	1
7	PT348-1545	L1545		PT-Nozzle, 1.9 mm	1
	PT348-1594 <b>NEW</b>	L1594		PT-Nozzle, 1.2 mm	1
8	PT348-1598	L1598		PT-Nozzle, 3.0 mm	1
9	PT348-0413	AL413	CZ20B-2	PT-Spacer	1

\*Available in single packs. To order single packs, remove the 'X' at the end of the part number (e.g. AM123-4567X would be AM123-4567)

## Consumables

Centricut part number	Esse A part number	Reference number	Description	Pkg qty
<b>PRECITEC® original spare parts (not shown)</b>				
PT347-0110		P0491-130-00001	PT-Nozzle holder KT M1.5" K S OEM, ceramic	1
PT347-0007	AL211	P0354-110-00001	PT-Sensor cone HNZ (Mazak)	1
PT347-0010		P0591-105-00001	PT-Connector head OEM	1
PT347-0012		P0497-130-00001	PT-Nut, M1.5" DXN OEM	1
PT347-0013		P0787-467-00001	PT-Protection cap	1
PT347-0200		P0497-002-00200	PT-Cable OEM, 200 mm	1
PT347-0014	KE 300 gw Z mm	P0360-150-00300	PT-Sensor cable OEM	1
PT347-0016		P0591-770-00001	PT-Electrode tactile OEM	1
PT347-0017	ZM HP1.5" DR	P0591-329-00001	PT-Seal OEM, 1.5"	1
PT347-0018	ZM HP1.5" DF	P0BM00001124KF	PT-Seal OEM, 1.5"	1
PT347-0021		P0594-510-00001	PT-Sensor insert SE HP 2.0" OEM	1
PT347-0022	281617	P0591-580-00001	PT-Socket ZM HP 1.5" IB OEM	1
PT347-0023	281395	P0591-920-00001	PT- Seal set ZM HP1.5" DS OEM	1
PT347-0024		P0497-110-00001	PT-Sensor insert SE M1.5" DXN	1
PT347-1439		P0591-360-00001	PT-Lens ring set OEM	1
PT347-1383	281395	P0591-490-00001	PT-Nut tray HP OEM (4 pcs)	1
PT344-0001		P0788-580-00001	Lens mount – OL YR30 F100 w/lens	1
PT347-0130		P0492-001-00130	PT-Electrode cable OEM, KE 130 GW	1
PT347-0220		P0464-810-00220	PT-Electrode cable OEM, KE 220 GGMM	1
PT347-350	AL350	46713330960	PT-Isolating ring, inner cone	1
PT347-349	AL349	46713330930	PT-Sensor cone inner	1





### Consumables

	Centricut part number	Esse A part number	Reference number	Description	Pkg qty
<b>New sensor cones</b>					
1	PT347-8001		280010	PT-Sensor cone 2.5Z/J	1
2	PT347-1145 <b>NEW</b>		P0380-140-0002, P0380-130-00001, 281145	PT-Sensor cone, DZ	1
3	PT347-0011 <b>NEW</b>		P0354-110-00001	PT-Sensor Cone HNZ (Mitsubishi)	1
	PT347-3323 <b>NEW</b> (not shown)		HNP	PT-Sensor Cone HNP	1
	PT347-0522 (not shown)		P0599-520-00002	PT-Sensor Cone LRC	1
	PT347-0019 (not shown)			PT-Sensor Insert SE 1.5" DZ	1
<b>Sensor cables</b>					
4	PT347-0101A		P0360-100-00500	PT-Sensor cable, 500 mm (20'') armored	1
	PT347-0250 (not shown)		P0492-001-00250	PT-Sensor cable, 250 mm (10'') armored	1
5	PT347-0101	AL204	P0360-100-00500, 46713300100	PT-Sensor head connecting cable OEM	1
6	PT347-1386	AL257	281386, P0360-155-00500	PT-Sensor cable, armored	1
	PT347-1250 (not shown)		D5001-040-00250	PT-Sensor cable, 250 mm (10'') armored	1
	PT347-KS13 (not shown)		PRECITEC AD#130	PT-Sensor cable, 390 mm (15.5'') armored	1
	PT347-06000EM (not shown)		P0360-210-00600	PT-Sensor cable, 600 ZWW OEM	1
	PT347-0450 (not shown)	AL202	P0497-002-00450	PT-Sensor cable, 450 mm (17.7'')	1
	PT347-0015A (not shown)		00B-15	PT-Sensor cable, 380 mm (15'')	1
	PT347-0181 (not shown)	AL358	46743300181	PT-Sensor cable, 305mm (12'') armored	1
	PT347-0522 (not shown)			PT-Sensor cone, LRC	1
	PT347-0014 (not shown)		P36015000300	PT-Sensor cable, KE 300 gw Z MM OEM	1
	PT344-3051 (not shown)			PT-Electrode guard, long	1
	PT347-0040 (not shown)		00BB-A-17i,BEC004-000.4	PT-Sensor cable, 431 mm (17'') armored	1
	PT347-0300A (not shown)		P0492-014-00300	PT-Sensor cable KE, 300 mm (12'') armored	1
	PT348-0390 (not shown)	AL257/S		PT-Sensor cable, 390 mm (15.5'')	1

## Consumables

Centricut part number	Esse A part number	Reference number	Description	Pkg qty
PT311-0787 (not shown)			PT-Insulating ring	1
PT347-0920 (not shown)	AL221	46713330920	PT-Isolating ring outer body (Mazak)	1
PT347-0520 (not shown)			PT-Insulating plate	1
PT347-0940 (not shown)	AL353	46713330940	PT-Retaining ring	1
PT347-1240 (not shown)	AL351	46713331240	PT-Torch outer body	1
PT347-0930 (not shown)			PT-Spatter protection plate	2
PT347-9006 (not shown)	AL356	HNP-006	PT-Connector cup, HNP	1

## Optics

Centricut part number	Reference number	Type	Diameter	Focal length	Edge thickness
<b>Lenses</b>					
PT317-0002	406294	MEN	1.5"	5.0"	.290"
PT317-0001	452726	MEN	1.5"	7.5"	.125"
PT317-6326	206326	MEN	2.0"	5.0"	.378"
PT317-8936	468936/F	PLX	1.5"	2.5"	.085"
PT317-8275	628275	PLX	2.0"	10.0"	.310"
PT317-0537	960537	PLX	2.0"	10.0"	.380"
PT317-9527	779527	PLX	2.0"	10.0"	.500"
PT317-8950	148950	PLX	1.5"	2.5"	.085"

Centricut part number	Reference number	Material	Diameter	Edge thickness
<b>Windows</b>				
PT317-0589		FS (replacement o-ring = PT317-0501)	22.35 mm	4.0 mm
PT317-1789		FS	50.00 mm	3.18 mm
PT317-9360	P58936000001	FS (with o-ring)	22.35 mm	4.0 mm
PT317-1424	WK 0GC	FS	21.50 mm	2.0 mm
PT317-1425	SCR-01	FS	38.00 mm	5.2 mm
PT317-1551	P0595-61551, P0595-58601-61551	FS	37.00 mm	7.0 mm
PT317-5919	77005919	FS	48.00 mm	7.0 mm
PT317-0010 <b>NEW</b>	P0253-1034-00001	FS	30.00 mm	1.50 mm
PT347-0000	P0251-1070-00001	FS	50.00mm	2.0 mm

## Optics care

Centricut part number	Reference number	Description	Pkg qty
TR300-6452		Lens cleaning Tiffen paper (50 pcs)	1
TR300-1115		Lens cleaning pre-cut cotton (100 pcs)	1
TR300-1010	AL1010	Dropper, lens cleaning fluid	1
TR300-1112		Optical cleaning fluid	1
TR300-0699	70675699 REVA	Lens cleaning swabs (25 pcs)	1
TR300-7991	27991	Polyester wipes 4" x 4" (100 pcs)	1
TR301-0282		Injector	1
TR300-LSA		Lens stress analyzer	1
TR300-255	AL255	Magnifying loop	1
TR300-271	AL271	Base, mirror maintenance	1
TR300-7388	787388	Mirror polish .1UM 250ML	1



# Sensor cones



**Centricut sensor cones provide substantial cost savings  
without sacrificing performance or quality**

- Available for Amada, Mazak, Mitsubishi and Precitec
- Delivers the same OEM performance at a lower cost
- Unmatched performance and reliability
- Engineered and manufactured to Hypertherm's precise quality standards
- Backed by our one-year warranty and 100% satisfaction guarantee

Centricut part number	OEM	Reference number	Description
AM343-0091	Amada	71360091	AM-Sensor cone, HS95 mini
AM343-1621	Amada	71341621	AM-Sensor cone, HS95
AM343-9107	Amada	ECO cone	AM-Sensor cone, ECO
AM343-1690	Amada	71341690	AM-Sensor cone, HS98
AM343-L3015C	Amada	71374509	AM-Sensor cone, LC3015
PT347-3323	Mazak	HNP	PT-Sensor cone, HNP
MZ335-HNPS	Mazak	HNPS	MZ-Sensor cone, HNP short version
PT347-0007	Mazak	56743300500	PT-Sensor cone, HNZ (Mazak)
PT347-0011	Mitsubishi	P0354-110-00002	PT-Sensor cone, HNZ (Mitsubishi)
MB334-W429A	Mitsubishi	P0461-270-00001	MB-Sensor cone, W429A
PT347-0238	Precitec	BQ930D238G01	PT-Sensor cone, HNZ SMA
PT347-8001	Precitec	P0361-203-00001	PT-Sensor cone, 2.5/J
PT347-0522	Precitec	P0599-520-00002	PT-Sensor cone, LRC
PT347-1145	Precitec	P0380-140-0002, P0380-130-00001, 281145	PT-Sensor cone, DZ

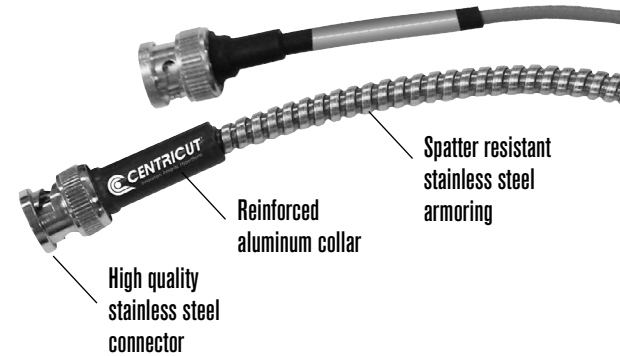
\*Sensor cone repair service is available for most sensor cones in North America and select international regions. For more information contact [Ctlaser@Hypertherm.com](mailto:Ctlaser@Hypertherm.com).

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# Armored sensor cables

## Centricut armored sensor cables outlast standard OEM cables

- Available for all major brands
- Robust design with extreme temperature rating (900–1200°)
- Longer life reduces downtime and production loss
- Spatter resistant stainless steel armoring
- Reinforced collars and high-quality connector



### Armored sensor cables

Centricut part number	OEM	Reference number	Description
AM308-8965	Amada	71398965	AM-Sensor cable, 305 mm (12")
AM308-8965A	Amada	71398965	AM-Sensor cable, 305 mm (12") premium, armored
AM313-1901	Amada		AM-Sensor cable, 305 mm (12")
AM313-1901A	Amada	71341630	AM-Sensor cable HS-5, 305 mm (12") premium, armored
AM313-8292	Amada	71398292	AM-Sensor cable dual shield, 7 meters
AM313-9851A	Amada	71369851	AM-Sensor cable, 230 mm (8") premium
CN306-0654A	Cincinnati	909654, 922686	CN-Sensor cable, 114 mm (4.5") armored
CN306-0951A	Cincinnati	842951	CN-Sensor cable, 140 mm (5.5") armored
CN306-2951	Cincinnati	842951, PLTTW0015	CN-Sensor cable, 140 mm (5.5")
CN306-9654	Cincinnati	909654, 922686, PLTTW0002	CN-Sensor cable, 114 mm (4.5") armored
MZ335-0111A	Mazak	4674330111	MZ-Sensor cable, 280 mm (11") armored
MZ335-0181A	Mazak	46743300181	MZ-Sensor cable, 317.5 mm (12.5") armored
MZ335-1330A	Mazak	46683301330	MZ-Sensor cable, 305 mm (12") armored
MZ335-1980A	Mazak	46683301980	MZ-Sensor cable, 280 mm (11") armored
MZ335-5320	Mazak	6143355320	MZ-Sensor cable, 70 mm (2.8") armored
MZ335-630A	Mazak	00BSBA630MNC	MZ-Sensor cable, 630 mm (25") armored
MZ335-8290	Mazak	46143308290	MZ-Sensor cable, 75 mm (3")
NT426-1682	NTC	4R029911-001, J482D	NT-Sensor cable, 216 mm (8.5")
NT426-4991	NTC	3-0104991	NT-Sensor cable 0-OBNC/MCX, 482 mm (19")
NT426-7492	NTC	3-0117492	NT-Sensor cable 90BNC/90BNC, 482 mm (19")
NT426-8677	NTC	4R028677-001	NT-Sensor cable, 508 mm (20") armored
PR361-3150	Prima	820.63.150	PR-Sensor cable, 150 mm (6")
PT347-0014	Precitec	P36015000300, KE 300 gw Z MM	PT-Sensor cable OEM
PT347-0015A	Precitec	00B-15	PT-Sensor cable, 380 mm (15")
PT347-0040	Precitec	00BB-A-17i, BEC004-000.4	PT-Sensor cable, 431 mm (17") armored
PT347-0101A	Precitec	P0360-100-00500	PT-Sensor cable, 500 mm (20") armored
PT347-0181	Precitec	46743300181	PT-Sensor cable
PT347-0250	Precitec	342475	PT-Sensor cable, 250 mm (10") armored
PT347-0300A	Precitec	P0492-014-00300	PT-Sensor cable KE, 300 mm (12") armored
PT347-0450	Precitec	P0497-002-00450	PT-Sensor cable, 450 mm (17.7")
PT347-KS13	Precitec/Gunkyo	00BMTKA-A-HS500mm	PT-Sensor cable, 390 mm (15.5") armored
PT347-0600OEM	Precitec	P0360-210-00600	PT-Sensor cable, 600 ZWW OEM
PT347-1250	Precitec	D5001-040-00250	PT-Sensor cable, 250 mm (10") armored
PT348-0390	Precitec		PT-Sensor cable, 390 mm (15.5")
TR301-0930	Trumpf	280930	TR-Sensor cable, 152 mm (6") armored
TR301-1086	Trumpf	351086, S0492-001-00000	TR-Sensor cable
TR301-7833	Trumpf	227833	TR-Sensor cable, 432 mm (17")
TR301-9983	Trumpf	359983, 342474	TR-Sensor cable, 190 mm (7.5") armored

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# Lens cleaning tips



## Centricut supplies suitable for all OEM CO<sub>2</sub> and fiber laser lenses

- Lens maintenance base is designed to secure a wide range of optics sizes for the cleaning process
- Centricut optical cleaning fluid is a safe, economical alternative to traditional high-purity and reagent-grade solvents
- Cleaning materials suited for all lens cleaning needs; lens paper, polyester swabs and polyester wipes

### Lens paper

Recommended for the routine maintenance cleaning of flat lenses.

### Polyester swabs

Recommended for cleaning curved lenses and where a more aggressive cleaning is required (interchangeable with polyester wipes).

### Polyester wipes

Recommended for cleaning CO<sub>2</sub> and fiber lenses and windows (interchangeable with polyester swabs and lens paper).

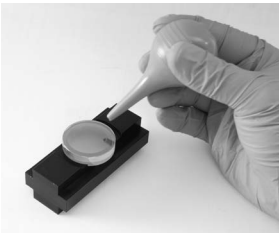
Product description	Part number	Quantity per order
Optical cleaning fluid (3 oz.)	TR300-1112	1
Lens cleaning swab	TR300-0699	25
Lens cleaning paper, Tiffen	TR300-6452	50
Polyester wipes 4" x 4"	TR300-7991	100
Base, lens maintenance	TR300-271	1

## Lens paper

Recommended for the routine maintenance cleaning of flat lenses.

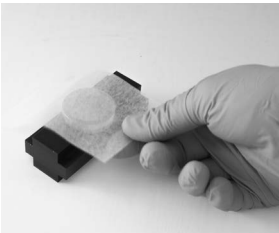
### You will need:

- Lens maintenance base (lens holder)
- Optical cleaning fluid
- Air bulb
- Lint-free lens paper
- Latex or rubber gloves



### To get started

Using rubber gloves, place the lens in the lens holder and remove all loose contaminants with an air bulb. When contaminants are no longer visible, begin the cleaning process.



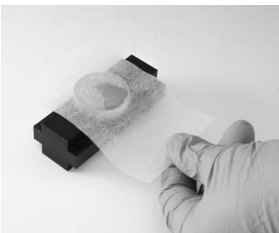
### Step 1

Place lens paper over the optic, covering it completely.



### Step 2

Apply a couple drops of lens cleaning fluid to the lens paper (far side of the lens).



### Step 3

Slowly pull the lens paper across the lens so the cleaning fluid comes in contact with the entire lens surface. Finish pulling the paper across so all of the fluid has dried from the lens.



### Step 4

Inspect the surface of the lens for dust and cleaning residue using a flashlight. Examine the lens from different angles. Repeat the process on the other side of the lens.

### Final step:

Place the cleaned lens in the machine quickly to avoid contamination from airborne particles. If spots, pits, or scratches are still noticeable, the lens may need to be replaced.

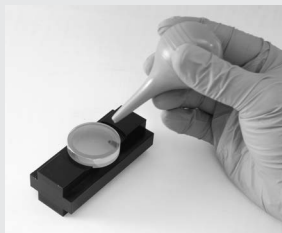
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## Polyester swabs

Recommended for cleaning curved lenses and where more aggressive cleaning is required. Interchangeable with polyester wipes.

### You will need:

- Lens maintenance base (lens holder)
- Optical cleaning fluid
- Air bulb
- Polyester swabs
- Latex or rubber gloves



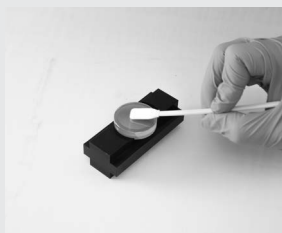
### To get started

Using rubber gloves, place the lens in the lens holder and remove all loose contaminants with an air bulb. When contaminants are no longer visible, begin the cleaning process.



### Step 1

Place a few drops of the optical cleaning fluid onto the swab.



### Step 2

Move the larger dirt particles and then finer contaminants to the edge of the lens using the swab. Do not rest the swab on the lens or on the work table. Do not reuse swabs.



### Step 3

Inspect the surface of the lens for dust and cleaning residue using a flashlight. Examine the lens from different angles. Repeat the process on the other side of the lens.

### Final step:

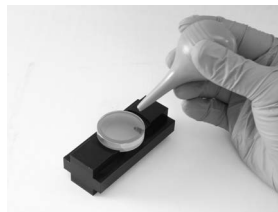
Place the cleaned lens in the machine quickly to avoid contamination from airborne particles. If spots, pits, or scratches are still noticeable, the lens may need to be replaced.

## Polyester wipes

Recommended for cleaning CO<sub>2</sub> and fiber lenses and windows. Interchangeable with polyester swabs and lens paper.

### You will need:

- Lens maintenance base (lens holder)
- Optical cleaning fluid
- Air bulb
- Polyester wipes
- Latex or rubber gloves



### To get started

Using rubber gloves, place the lens in the lens holder and remove all loose contaminants with an air bulb. When contaminants are no longer visible, begin the cleaning process.



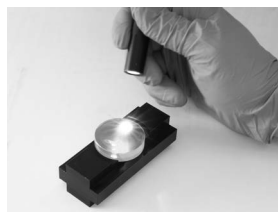
### Step 1

Place a few drops of the optical cleaning fluid onto the polyester wipe



### Step 2

Place the wipe with the wet side down on the lens and slide it across the lens, applying light pressure to the top of the wipe. Avoid contamination to the wipe and do not reuse wipes.



### Step 3

Inspect the surface of the lens for dust and cleaning residue using a flashlight. Examine the lens from different angles. Repeat the process on the other side of the lens.

### Final step:

Place the cleaned lens in the machine quickly to avoid contamination from airborne particles. If spots, pits, or scratches are still noticeable, the lens may need to be replaced.

# Steps to help optimize cut quality.

Striation marks, angularity and dross tell the story.

Optimizing CO<sub>2</sub> and fiber lasers to achieve maximum cut quality is a very important step in the overall cutting process. The critical points that produce good cuts are the width of the kerf (the material that is lost during the cut), oxidation and roughness of the cut surface, the geometry of the cut parts and the allowable tolerances. Some factors to be considered are the cut speed or 'feed rate', beam focus, gas pressure, standoff and nozzle size/type.

## Factory cut chart settings

The following samples show 12 mm, 6 mm and 3.2 mm (1/2", 1/4" and 10 ga.) mild steel, cut with O<sub>2</sub> on a 2 kW fiber laser with one variable changed to show how cut quality is affected. The adjustments will be similar for all CO<sub>2</sub> and fiber laser, cutting mild steel with O<sub>2</sub>.

### Is the kerf too narrow?

When the kerf is too narrow the cut will have a very smooth edge on the top, a lack of oxidation on the bottom and/or heavy dross.

#### Probable causes:

- Focus is too low
- Feed rate is too fast
- Gas pressure is too low
- Nozzle size is too small
- Standoff is too low

#### Follow these steps to optimize cut quality:

1. Use the closest known settings for the material being cut.
2. Use a test part that has both interior and exterior features.
3. Verify that the lens and/or window is clean and in good condition.
4. Verify that the nozzle is centered properly and is in good condition.
5. Adjust the focus up and down until the cut quality starts to get bad and then set to the middle of that range.
6. Adjust the gas pressure up and down until the cut starts to get bad and then set to the middle of that range.
7. Adjust the feed rate up by 5% increments. When the cut starts to get bad, set the feed rate 10% slower.

### Strike a balance between heat levels and gas flow

Cutting mild steel with a laser is a balance of how much material is heated by the laser beam and how much assist gas flows through the cut.

- Heating up too small of an area, or not having enough assist gas flow through the cut will result with the kerf (width of the cut) being too narrow.
- Heating up too large of an area or having too much assist gas flow through the cut will result in the kerf being too wide.

### Is the kerf too wide?

When the kerf is too wide the cut will have a rougher edge, more self burning in the corners of the part, more angularity on the cut edge and occasionally, dross.

#### Probable causes:

- Focus is too high
- Feed rate is too slow
- Gas pressure is too high
- Nozzle size is too big
- Standoff is too high
- Incorrect nozzle type

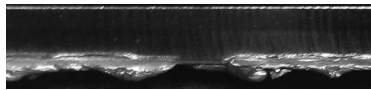
## 3.2 mm (10 ga.) mild steel cut resulting in too narrow kerf

### Factory cut chart settings



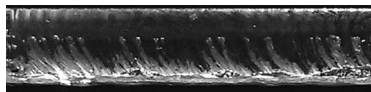
### Focus is too low

The kerf is too narrow and doesn't allow enough  $O_2$  into the cut to remove all the molten material.



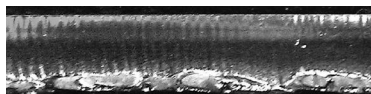
### Feed rate is too fast

The cut striations are trailing the direction of cutting and there is not enough time to remove all the molten material.



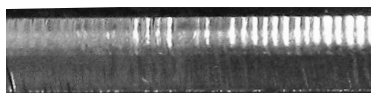
### Gas pressure is too low

There is not enough  $O_2$  to remove all the molten material.



### Stand off is too low

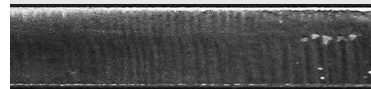
The focus spot is in the wrong location, causing the rough edge.



Cut direction

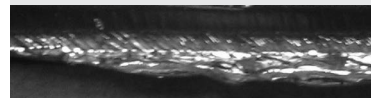
## 3.2 mm (10 ga.) mild steel cut resulting in too wide kerf

### Factory cut chart settings



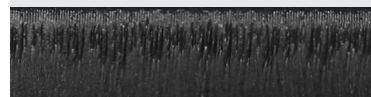
### Focus is too high

The laser is melting more material than can be removed from the cut.



### Feed rate is too slow

The cut surface is too rough and productivity is decreased.



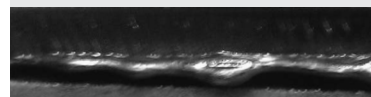
### Gas pressure is too high

Too much  $O_2$  results in overheating of the cut and causes intermittent gouges.



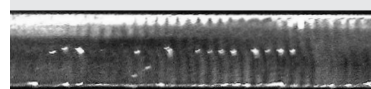
### Stand off is too high

The laser is melting more material than can be removed from the cut.



### Nozzle size is too big

Too much  $O_2$  results in overheating of the cut and causes intermittent gouges.

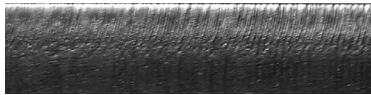


Cut direction

\*Above samples have been cut with  $O_2$  on 2 kW fiber laser. Results will be similar for  $CO_2$  laser cutting mild steel with  $O_2$ .

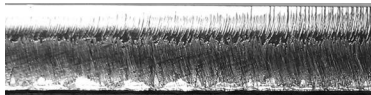
## 6 mm (1/4") mild steel cut resulting in too narrow kerf

Factory cut chart settings



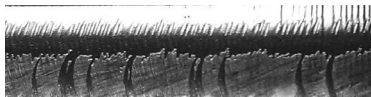
**Focus is too low**

The kerf is too narrow and doesn't allow enough O<sub>2</sub> into the cut to remove all the molten material.



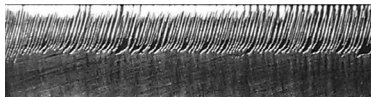
**Feed rate is too fast**

The cut striations are trailing the direction of cutting and there is not enough time to remove all the molten material.



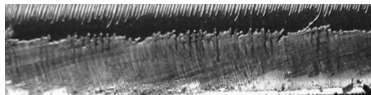
**Gas pressure is too low**

There is not enough O<sub>2</sub> to remove all the molten material.



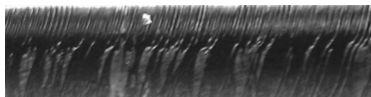
**Stand off is too low**

The focus spot is in the wrong location, causing the rough edge.



**Nozzle size is too small**

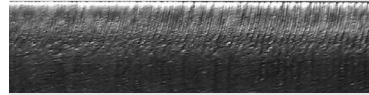
There is not enough O<sub>2</sub> to cut uniformly



**Cut direction**

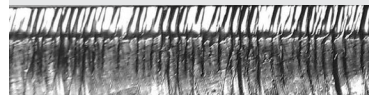
## 6 mm (1/4") mild steel cut resulting in too wide kerf

Factory cut chart settings



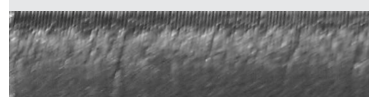
**Focus is too high**

The wider focus spot is letting too much O<sub>2</sub> into the cut and burning the material.



**Feed rate is too slow**

The cut surface is too rough and productivity is decreased.



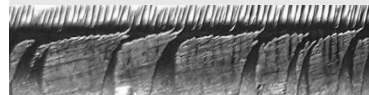
**Gas pressure is too high**

Too much O<sub>2</sub> is entering the cut, causing a rougher edge and inconsistent cutting.



**Stand off is too high**

Too much O<sub>2</sub> is entering the cut, causing a rougher edge and inconsistent cutting.



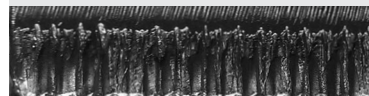
**Nozzle size is too big**

Too much O<sub>2</sub> results in overheating of the cut and causes intermittent gouges.



**Nozzle type is incorrect**

The shape of the gas flow is incorrect, causing a rougher edge.



**Cut direction**

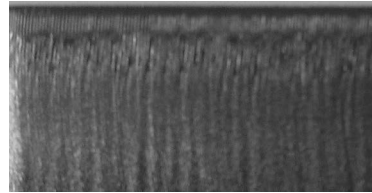
\*Above samples have been cut with O<sub>2</sub> on 2 kW fiber laser. Results will be similar for CO<sub>2</sub> laser cutting mild steel with O<sub>2</sub>.

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## 12 mm (1/2") mild steel cut resulting in too narrow kerf

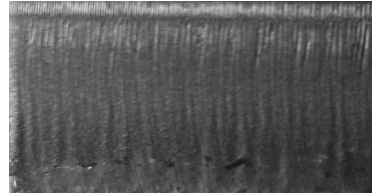
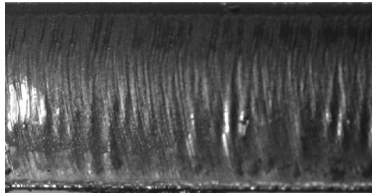
### Factory cut chart settings



### Factory cut chart settings

### Focus is too low

The kerf is too narrow and doesn't allow enough O<sub>2</sub> into the cut to remove all the molten material.

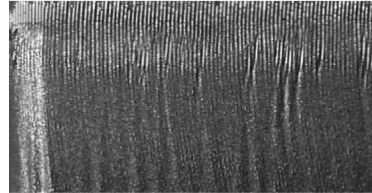
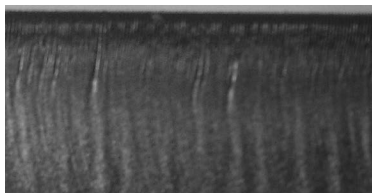


### Stand off is too low

The kerf is too narrow to allow enough O<sub>2</sub> into the cut. The oxidation is not covering the entire surface and cutting will be inconsistent.

### Feed rate is too fast

The machine is moving too fast to allow enough O<sub>2</sub> into the cut for consistent cutting.

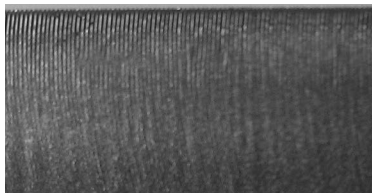


### Nozzle size is too small

There is not enough O<sub>2</sub> to cut uniformly

### Gas pressure is too low

The pressure is too low to allow enough O<sub>2</sub> into the cut. The oxidation is not covering the entire surface and cutting will be inconsistent.



Cut direction

Cut direction

\*Above samples have been cut with O<sub>2</sub> on 2 kW fiber laser. Results will be similar for CO<sub>2</sub> laser cutting mild steel with O<sub>2</sub>.

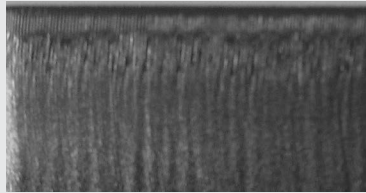
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## 12 mm (1/2") mild steel cut resulting in too wide kerf

### Factory cut chart settings

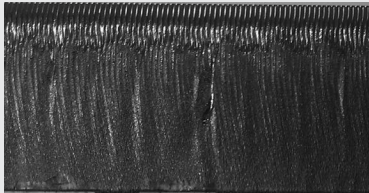


### Factory cut chart settings



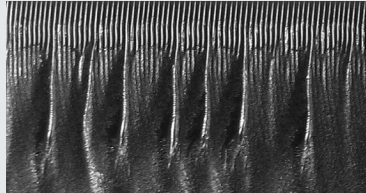
### Focus is too high

Too much O<sub>2</sub> is entering the cut causing intermittent over burning.



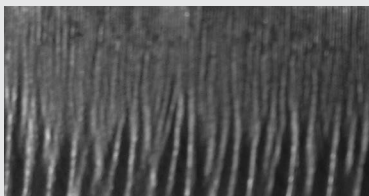
### Stand off is too high

Too much O<sub>2</sub> is entering the cut resulting in intermittent over burning.



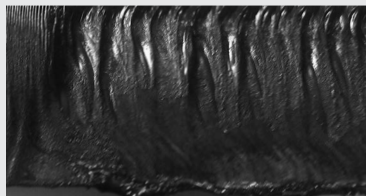
### Feed rate is too slow

The machine is moving too slow resulting in the over burning of the bottom half of the cut. The slower feed rate also reduces productivity.



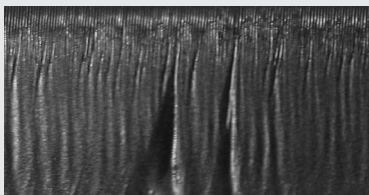
### Incorrect nozzle type

The gas flow shape is not correct resulting in inconsistent cutting.



### Gas pressure is too high

Too much O<sub>2</sub> is entering the cut resulting in intermittent over burning.



**Cut direction**

**Cut direction**

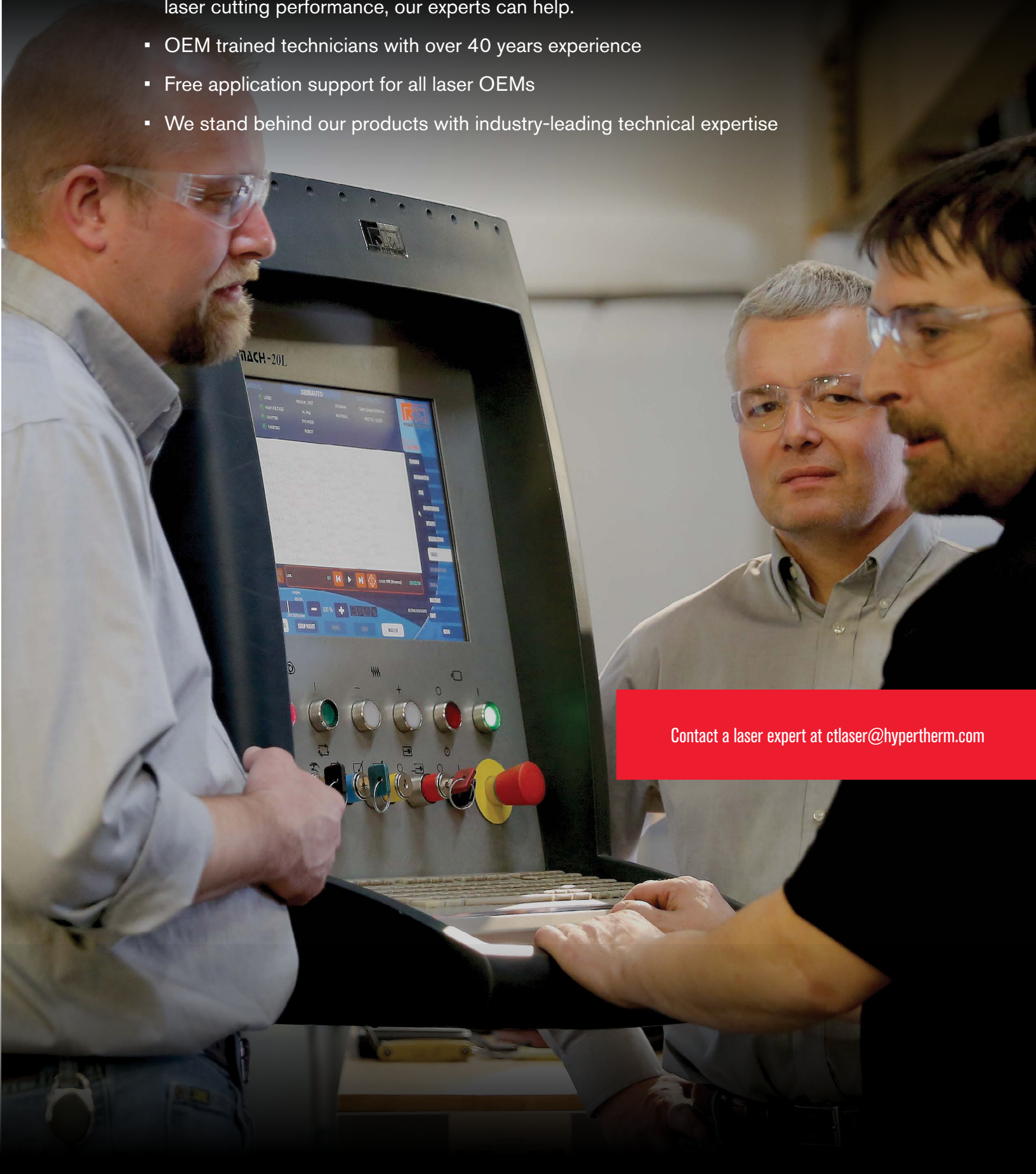
\*Above samples have been cut with O<sub>2</sub> on 2 kW fiber laser. Results will be similar for CO<sub>2</sub> laser cutting mild steel with O<sub>2</sub>.

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