

# STEEL MILL EQUIPMENT MESSER CUTTING SYSTEMS





SMB 600 with angled torch head



SMB 600 with straight torch head

### HEAVY-DUTY HAND CUTTING TORCH SMB 600

With spring lever for cutting oxygen (version with hand wheel valve available upon request), for cutting of slabs, ingots, billets, non-alloy and low-alloy steel castings and forgings, and for cutting of steel scrap, Cutting range see table.

Fuel gases: A = Acetylene  
 PM = Propane, methane (natural gas)  
 Y = Methyl acetylene propadien mixtures (MAPP a.o.)

Hose connections according to EN 560, G 1/2" RH-11 for oxygen and G 3/8" LH-9 for fuel gas

Operating data see pages 6 and 7

Heavy-duty hand cutting torch without accessories			SMB 600
Description		Art. No.	Cat. No.
Version with angled torch head	length 1000 mm	716.50083	006
	length 1500 mm	716.50317	006
Version with straight torch head	length 1000 mm	716.50084	006
	length 1500 mm	716.50318	006
other torch lengths available upon request			

Gas-mixing cutting nozzles			GRICUT® 5310-A
Description	Cutting range	Art. No.	Cat. No.
GRICUT® 5310-A	100 - 300 mm	716.50103	006
	300 - 500 mm	716.50104	006



### GRICUT® 5281-PMY

Heavy-duty hand cutting torch without accessories



Description	Cutting range	Art. No.	Cat. No.
Cutting nozzles	100 - 300 mm	716.50100	006
GRICUT® 5281-PMY	300 - 450 mm	716.50101	006
	450 - 600 mm	716.50209	006
Heating nozzle	100 - 450 mm	716.50236	006
GRICUT® 5281-PMY	450 - 600 mm	716.50211	006



Torch head skid attachment



Torch head with torch carriage

### SMB 600

Accessories

Description	Art. No.	Cat. No.
Torch carriage	716.50260	006
Skid	716.50275	006
Pressure screw M30x1.5	716.50052	006
Nozzle cleaners in case	052.29201	038
Oxygen hose 11 mm	051.01200 *	043
Fuel gas hose 9 mm	051.00040	043
Hand wheel valve insert for cutting oxygen	716.50307 *	006
Cylinder regulator U 11 F Inlet pressure 40 bar / Outlet pressure 6 bar (Propane)	716.55598	004



Torch head with cutting nozzle and powder head



Torch head with cutting nozzle and powder nozzle



Cutting nozzle GRICUT® 5281-PMY



Heating nozzle GRICUT® 5281-PMY-PV

Additional powder equipment		SMB 600	
Description		Art. No.	Cat. No.
Powder equipment complete incl. powder nozzle and quick action valve for torch length 1000 mm (SMB 600 only)		716.50333 *	006
Powder equipment complete incl. powder nozzle and quick action valve for torch length 1500 mm (SMB 600 only)		716.14143 *	006
Powder head complete for PMY (SMB 600 only)		716.50279 *	006
Powder head complete for Acetylene (SMB 600 only)		716.50278 *	006
Cutting nozzle GRICUT® 5310-A-PV	100 - 300 mm	716.50295 *	006
	300 - 500 mm	716.50296 *	006
Cutting nozzle GRICUT® 5281-PMY	100 - 300 mm	716.50100	006
	300 - 450 mm	716.50101	006
	450 - 600 mm	716.50209	006
Heating nozzle GRICUT® 5281-PMY-PV	100 - 450 mm	716.50297 *	006
	450 - 600 mm	716.50298 *	006
Powder distributor P75		731.29840	006

Heavy-Duty Hand-Cutting-Torch SMB 600 completely with powder equipment		SMB 600	
Description		Art. No.	Cat. No.
SMB 600 PZFK-PMY torch length 1000 mm Execution with angled torch head and powder head complete for PMY		716.14182 *	006
SMB 600 PZFK-PMY torch length 1500 mm Execution with angled torch head and powder head complete for PMY		716.14183 *	006
SMB 600 PZFK-A torch length 1000 mm Execution with angled torch head and powder head complete for Acetylene		716.14184 *	006
SMB 600 PZFK-A torch length 1500 mm Execution with angled torch head and powder head complete for Acetylene		716.14185 *	006
SMB 600 PZFD torch length 1000 mm Execution with angled torch head and powder equipment complete incl. powder nozzle and quick action valve		716.14180 *	006
SMB 600 PZFD torch length 1500 mm Execution with angled torch head and powder equipment complete incl. powder nozzle and quick action valve		716.14181 *	006

### CUTTING NOZZLES GRICUT® 5310-A

Cutting thickness [mm]	Cutting nozzle	Art. No.	Nozzle clearance [mm]	Oxygen pressure [bar]	Acetylene pressure [bar]	Cutting kerf width [mm]	Oxygen consumption [m³/h]	Acetylene consumption [m³/h]
Fuel gas acetylene								
100			30	3,0	0,5	5	22,0	0,8
150			30	4,0	0,5	7	27,0	1,2
200	100 - 300	716.50103	30	5,0	0,5	8	32,2	1,6
250			30	6,0	0,5	9	37,3	1,9
300			30	7,0	0,5	10	42,0	2,7
300			30	7,0	0,8	10	52,0	2,7
350			30	8,0	0,8	15	55,1	3,4
400	300 - 500	716.50104	30	9,0	0,8	20	58,3	4,2
450			30	9,5	0,8	20	65,9	4,9
500			30	10,0	0,8	25	66,5	5,5

### CUTTING NOZZLES GRICUT® 5281-PMY

Cutting thickness [mm]	Cutting nozzle	Heating nozzle	Art. No. Cutting nozzle	Art. No. Heating nozzle	Nozzle clearance [mm]	Oxygen pressure [bar]	Propane pressure [bar]	Cutting kerf width [mm]	Oxygen consumption [m³/h]	Propane consumption [m³/h]
Fuel gas propane										
100					30	3,0	0,5	5	23,0	0,5
150					30	4,0	0,5	7	28,5	0,7
200	100 - 300	100 - 450	716.05100	716.50236	30	5,0	0,5	8	34,0	0,9
250					30	6,0	0,5	9	39,5	1,1
300					30	7,0	0,5	10	45,0	1,6
300					30	7,0	1,0	10	55,0	1,6
350	300 - 450	100 - 450	716.50101	716.50236	30	7,5	1,0	15	59,0	2,0
400					30	8,0	1,0	20	63,0	2,4
450					30	9,0	1,0	20	71,5	2,8
450					30	8,0	1,5	20	99,0	3,1
500	450 - 600	450 - 600	716.50209	716.50211	30	9,0	1,5	20	114,5	3,4
550					30	10,0	1,5	25	130,0	3,8
600					30	12,0	1,5	25	161,5	4,4

The tables indicate standard values based on the use of plain steel with a carbon content of up to 0,3 % and oxygen with a minimum purity of 99.5 %. The allowable particle size in the oxygen is 30 µm maximum. The pressure stated are gauge pressure measured at the torch inlet. The consumption data indicated in m³/h apply to the standard condition as per DIN 1343.

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Use only clean, undamaged nozzles.

CUTTING NOZZLE GRICUT® 5281-PMY										
Cutting thickness [mm]	Cutting nozzle	Heating nozzle	Art. No. Cutting nozzle	Art. No. Heating nozzle	Nozzle clearance [mm]	Oxygen pressure [bar]	Methane pressure [bar]	Cutting kerf width [mm]	Oxygen consumption [m³/h]	Methane consumption [m³/h]
Fuel gas methan (natural gas)										
100					30	3,0	0,5	5	23,0	1,3
150					30	4,0	0,5	7	28,5	1,9
200	100 - 300	100 - 450	716.05100	716.50236	30	5,0	0,5	8	34,0	2,5
250					30	6,0	0,5	9	40,0	3,1
300					30	7,0	0,5	10	46,6	4,3
300					30	7,0	1,2	10	55,8	4,3
350	300 - 450	100 - 450	716.50101	716.50236	30	7,5	1,2	15	59,9	5,5
400					30	8,0	1,2	20	64,1	6,7
450					30	9,0	1,2	20	72,8	7,9
450					30	8,0	1,7	20	103,2	10,4
500	450 - 600	450 - 600	716.50209	716.50211	30	9,0	1,7	20	119,0	11,3
550					30	10,0	1,7	25	135,0	12,2
600					30	12,0	1,7	25	164,0	12,2

CUTTING NOZZLE GRICUT® 5281-PMY										
Cutting thickness [mm]	Cutting nozzle	Heating nozzle	Art. No. Cutting nozzle	Art. No. Heating nozzle	Nozzle clearance [mm]	Oxygen pressure [bar]	MAPP pressure [bar]	Cutting kerf width [mm]	Oxygen consumption [m³/h]	MAPP consumption [m³/h]
Fuel gas MAPP										
100					30	3,0	0,5	5	22,5	0,5
150					30	4,0	0,5	7	27,9	0,7
200	100 - 300	100 - 450	716.05100	716.50236	30	5,0	0,5	8	33,2	1,0
250					30	6,0	0,5	9	38,5	1,2
300					30	7,0	0,5	10	43,6	1,6
300					30	7,0	1,0	10	53,6	1,6
350	300 - 450	100 - 450	716.50101	716.50236	30	7,5	1,0	15	57,3	2,1
400					30	8,0	1,0	20	60,9	2,5
450					30	9,0	1,0	20	69,0	3,0
450					30	8,0	1,5	20	96,5	3,2
500	450 - 600	450 - 600	716.50209	716.50211	30	9,0	1,5	20	111,7	3,6
550					30	10,0	1,5	25	126,9	3,9
600					30	12,0	1,5	25	157,5	4,6

### Recommended equipment for SMB 600 for safe operation up to the maximum cutting ranges

Pressure regulator oxygen:	U13 with 20 Bar backpressure supplied by bundle or tank
Safety-device oxygen:	Demax 5
Pressure regulator fuel gas:	Constant or. ET65 (depending on type of fuel gas) resp. U 11 F (Propane) + adapter
Safety-device fuel gas:	DG 91 N
Oxygen-hose:	DN 11 G1/2" RH (optional metal braided)
Fuel gas-hose:	DN 9 G3/8" LH (optional metal braided)

### Optional Equipment for operating SMB 600 with powder

The SMB 600 is already available with a powder device. Otherwise, you have to order an additional powder device.

Powder device:	P75
Powder:	Grisint
Pressure regulator compressed air:	Constant with 10 Bar backpressure
Safety device compressed air:	Not required
Comp. Air Hose between tapping point and P75:	DN6 G1/4"RH union nut_L=10m (Art. 77020491)
Powder Hose between P75 and cutting torch:	DN6 G1/4"RH union nut_L=10m_assembled (Art. 77020490)

### Recommended gas supply for safe operation (in combination with oxygen)

SMB 600		Gas supply acetylene
Cutting range	Short operation until 20 minutes.	Permanently operation > 20 minutes
Up to 100 mm	1 Cylinder	2 Cylinders
Up to 200 mm	2 Cylinders	3 Cylinders
Up to 300 mm	3 Cylinders	5 Cylinders
Up to 400 mm	5 Cylinders	Bundle
Up to 500 mm	6 Cylinders	Bundle

SMB 600		Gas supply Propane
Cutting range	Short operation until 20 minutes.	Permanently operation > 20 minutes
Up to 100 mm	1 Cylinder	1 Cylinder
Up to 200 mm	1 Cylinder	2 Cylinders
Up to 300 mm	1 Cylinder	3 Cylinders
Up to 400 mm	2 Cylinders	4 Cylinders
Up to 500 mm	3 Cylinders	5 Cylinders
Up to 600 mm	4 Cylinders	6 Cylinders



SMB 663 with angled torch head



SMB 663 with straight torch head

### HEAVY DUTY HAND CUTTING TORCH SMB 663

with spring lever for cutting oxygen (version with hand wheel valve available upon request), for cutting of slabs, ingots, billets, non-alloy and low-alloy steel castings and forgings, and for cutting of steel scrap. Cutting-range, see attached table.

Fuel gas: A = Acetylene  
 PM = Propane, methane (natural gas)  
 Y = Methyl acetylene propadien mixtures (MAPP a.o.)

Hose connections according to EN 560, G 1/2" RH-11 for oxygen and G 3/8" LH-9 for fuel gas

Operating data see pages 12 and 13

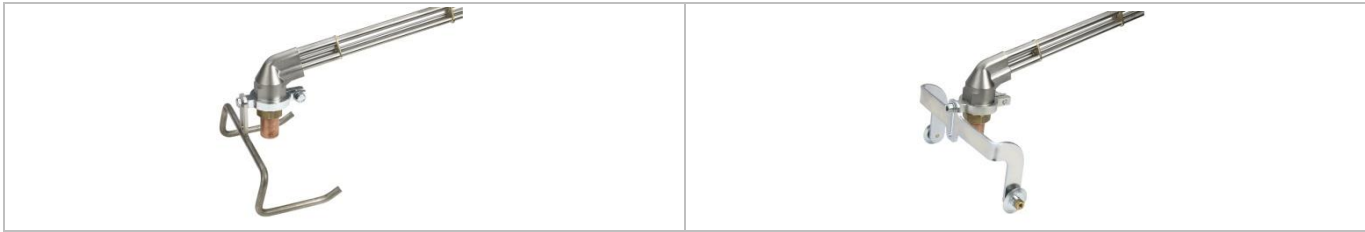
Heavy-duty hand cutting torch without accessories				SMB 663
Description			Art. No.	Cat. No.
Version with angled torch head (75°)	length 1260 mm	Head 75°	716.50265	006
	length 1500 mm	Head 75°	716.50319	006
Version with angled torch head (90°)	length 3000 mm	Head 90°	716.14050 *	006
	length 4000 mm	Head 90°	716.14051 *	006
Version with straight torch head	length 1260 mm	Head 180°	716.50277	006
	length 1500 mm	Head 180°	716.50320	006
other torch lengths available upon request				

Gas-mixing cutting nozzles		BLOCK CUTTING NOZZLES		
Description	Cutting range	Art. No.	Cat. No.	
DPC-A	50 - 300 mm	731.07433	006	
	300 - 600 mm	731.07434	006	
DBH-PMY	100 - 300 mm	731.17353	006	
	300 - 500 mm	731.17315	006	
	500 - 700 mm	731.17317	006	



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Torch head with skid

Torch head with torch carriage

SMB 663		Accessories
Description	Art. No.	Cat. No.
Torch carriage	716.50260	006
Skid	716.50275	006
Pressure screw M36X1,5	552.10220	006
Nozzle cleaners in case	052.29201	038
Oxygen hose 11 mm	051.01200 *	043
Fuel gas hose 9 mm	051.00040	043
Hand wheel valve insert	716.50307 *	043



Torch head with powder nozzle

SMB 663		Powder additional equipment
Description	Art. No.	Cat. No.
Powder equipment complete incl. powder nozzle and quick action valve for torch length 1260 mm (SMB 663 only)	716.14145 *	006
Powder equipment complete incl. powder nozzle and quick action valve for torch length 1500 mm (SMB 663 only)	716.50339 *	006
Standard cutting nozzles are used		
Powder distributor P75 (see page 21) Inlet pressure 10 bar max., Container pressure 1.0 bar max., Powder charge 75 kg max.	731.29840	006

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Heavy-Duty Hand-Cutting-Torch SMB 663 completely with powder equipment

**SMB 663**

<i>Description</i>	<i>Art.-No.</i>	<i>Cat.-No.</i>
SMB 663 PZFD torch length 1260 mm Execution with angled torch head and powder equipment complete incl. powder nozzle and quick action valve	716.14186 *	006
SMB 663 PZFD torch length 1260 mm Execution with straight torch head and powder equipment complete incl. powder nozzle and quick action valve	716.14188 *	006
SMB 663 PZFD torch length 1500 mm Execution with angled torch head and powder equipment complete incl. powder nozzle and quick action valve	716.14187 *	006
SMB 663 PZFD torch length 1500 mm Execution with straight torch head and powder equipment complete incl. powder nozzle and quick action valve	716.14189 *	006
SMB 663 PZFD torch length 2500 mm Execution with angled torch head and powder equipment complete incl. powder nozzle and quick action valve	716.14196 *	006

### CUTTING NOZZLES DPC-A

Cutting thickness [mm]	Cutting nozzle	Art. No.	Nozzle clearance [mm]	Oxygen pressure [bar]	Acetylene pressure [bar]	Cutting kerf width [mm]	Oxygen consumption [m³/h]	Acetylene consumption [m³/h]
Fuel gas acetylen								
50			20	6,0	0,5	5 - 7	36,0	3,0
100				7,5		5 - 7	43,0	3,0
150	50 - 300	731.07433	to	8,0	to	6 - 7	46,0	3,5
200				8,5		7 - 8	48,0	4,0
250				9,0		8 - 9	51,0	4,0
300			25	9,5	1,0	9 - 10	54,0	4,0
300			25	8,5	0,8	12	65,0	5,0
350				9,5		14	73,0	5,0
400	300 - 600	731.07434	to	10,5	to	17	80,0	5,0
450				11,5		18	85,0	6,0
600			30	12,0	1,2	19	90,0	6,0

### CUTTING NOZZLES DBH-PMY

Cutting thickness [mm]	Cutting nozzle	Art. No.	Nozzle clearance [mm]	Oxygen pressure [bar]	Propane pressure [bar]	Cutting kerf width [mm]	Oxygen consumption [m³/h]	Propane consumption [m³/h]
Fuel gas propane								
100			30	2,5	0,6	6	16,3	0,3
150			30	5,0	0,6	7	25,3	0,7
200	100 - 300	731.17353	30	7,0	0,6	8	34,0	1,0
250			30	8,5	0,6	9	42,6	1,3
300			30	10,5	0,6	10	51,7	1,7
300			30	6,5	1,1	13	60,4	1,7
350			30	8,0	1,1	14	71,8	2,3
400	300 - 500	731.17315	30	9,0	1,1	17	83,3	2,9
450			30	10,5	1,1	19	95,0	3,6
500			30	12,0	1,1	21	107,2	4,4
500			50	9,5	1,6	21	113,0	4,4
550	500 - 700	731.17317	50	10,5	1,6	23	126,5	4,9
600			50	12,0	1,6	25	141,0	5,4
650			50	13,5	1,6	27	154,7	6,3
700			50	15,0	1,6	28	168,7	7,4

### CUTTING NOZZLES DBH-PMY

Cutting thickness [mm]	Cutting nozzle	Art. No.	Nozzle clearance [mm]	Oxygen pressure [bar]	Methane pressure [bar]	Cutting kerf width [mm]	Oxygen consumption [m³/h]	Methane consumption [m³/h]
Fuel gas methane (natural gas)								
100			30	2,5	0,8	6	16,5	0,9
150			30	5,0	0,8	7	25,6	1,9
200	100 - 300	731.17353	30	7,0	0,8	8	34,3	2,7
250			30	8,5	0,8	9	43,0	3,4
300			30	10,5	0,8	10	52,2	4,5
300			30	6,5	1,4	13	61,0	4,5
350			30	8,0	1,4	14	72,5	5,9
400	300 - 500	731.17315	30	9,0	1,4	17	84,1	7,6
450			30	10,5	1,4	19	96,0	9,4
500			30	12,0	1,4	21	108,3	11,4
500			50	9,5	2,0	21	114,1	11,4
550	500 - 700	731.17317	50	10,5	2,0	23	127,8	12,7
600			50	12,0	2,0	25	142,4	14,0
650			50	13,5	2,0	27	156,2	16,4
700			50	15,0	2,0	28	170,4	19,0

### CUTTING NOZZLES DBH-PMY

Cutting thickness [mm]	Cutting nozzle	Art. No.	Nozzle clearance [mm]	Oxygen pressure [bar]	MAPP pressure [bar]	Cutting kerf width [mm]	Oxygen consumption [m³/h]	MAPP consumption [m³/h]
Fuel gas MAPP								
100			30	2,5	0,6	6	16,1	0,3
150			30	5,0	0,6	7	25,0	0,7
200	100 - 300	731.17353	30	7,0	0,6	8	33,7	1,1
250			30	8,5	0,6	9	42,6	1,3
300			30	10,5	0,6	10	51,2	1,8
300			30	6,5	1,1	13	59,8	1,8
350			30	8,0	1,1	14	71,1	2,3
400	300 - 500	731.17315	30	9,0	1,1	17	82,5	3,0
450			30	10,5	1,1	19	94,1	3,7
500			30	12,0	1,1	21	106,1	4,6
500			50	9,5	1,6	21	111,9	4,6
550	500 - 700	731.17317	50	10,5	1,6	23	125,2	5,1
600			50	12,0	1,6	25	139,6	5,6
650			50	13,5	1,6	27	153,2	6,4
700			50	15,0	1,6	28	167,0	7,7

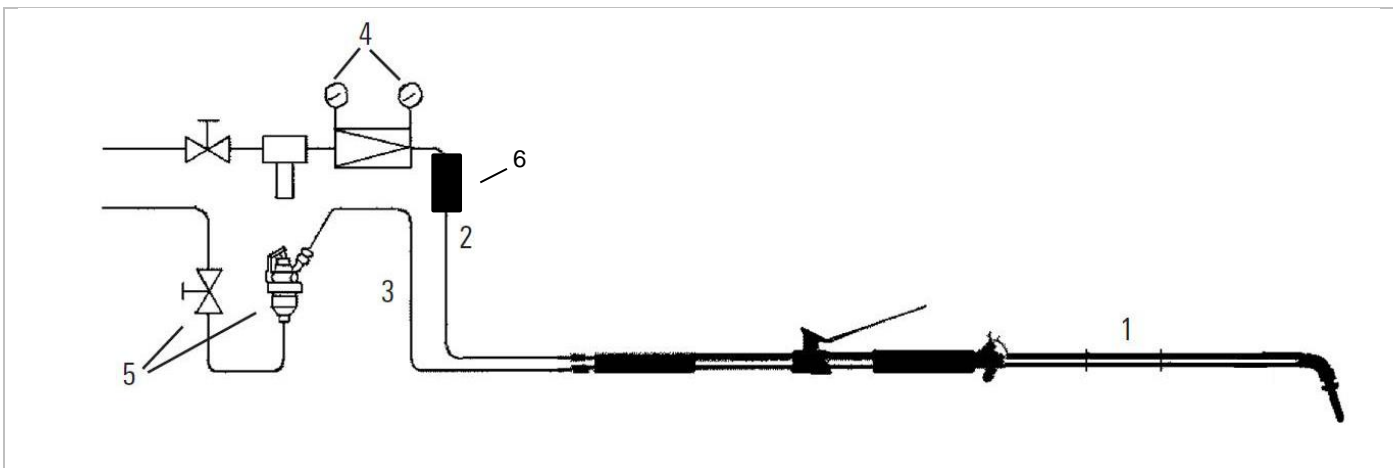
### Cutting values for heavy duty hand torch type SMB 663 with Fe powder unit

Oxygen purity:	min. 99,5 %
Test material:	Stainless steel CrNi 18/8 N
Fuel gas:	propane
Torch adjustment:	according to operating data for cutting nozzle type DBH-PMY (page 12-13)
Used powder:	GRISINT® (Art. No. 0.462.004), the values are approximate
Cutting speed tolerances:	approx. 20 %
Cut quality:	Oxyfuel hand cuts with FE powder addition depend heavily upon the skill of the operator. Without mechanical guidance only scrap quality can be achieved.
Note:	All data and especially the low wear with powder nozzles and valves can only be achieved if using the iron powder GRISINT® in combination with powder distributor P75, as well as original Messer CS connecting parts.

#### SMB 663

#### Cutting values

Material thickness [mm]	Used nozzle	Cutting speed [mm/min]	Powder consumption [kg/h]
50	731.17353	400	6 - 7
100	731.17353	350	7 - 8
150	731.17353	300	8 - 10
200	731.17353	280	10 - 12
250	731.17353	210	10 - 12
300	731.17353	170	12 - 15
350 - 500	731.17315	120 - 60	20 - 25
500 - 700	731.17317	60 - 30	25 - 30



- 1 Hand cutting torch SMB 663
- 2 Oxygen hose DIN EN ISO 3821
- 3 Fuel gas hose DIN EN ISO 3821
- 4 Oxygen pressure regulator U 13 with filter and shut-off valve
- 5 Tapping point flashback arrestor with shut-off valve for acetylene or propane, methane (natural gas), MAPP
- 6 Safety device for oxygen

### Recommended equipment for SMB 663 for safe operation up to the maximum cutting ranges

Pressure regulator oxygen:	U13 with 20 Bar backpressure supplied by bundle or tank
Safety-device oxygen:	Simax 3
Pressure regulator fuel gas:	ET65 (depending on type of fuel gas) or U 11 F (Propane)
Safety-device fuel gas:	DG 91 N
Oxygen-hose:	DN 11 G1/2" RH (optional metal braided)
Fuel gas-hose:	DN 9 G3/8" LH (optional metal braided)

### Optional Equipment for operating SMB 663 with powder

The SMB 663 is already available with a powder device. Otherwise, you have to order an additional powder device.

Powder device:	P75
Powder:	Grisint
Pressure regulator compressed air:	Constant with 10 Bar backpressure
Safety device compressed air:	Not required
Comp. Air hose between tapping point and P75:	DN 6 G1/4"RH (optional metal braided)
Comp. Air hose between P75 and torch:	DN 6 G1/4"RH (optional metal braided) mind. 5m und max. 10m long

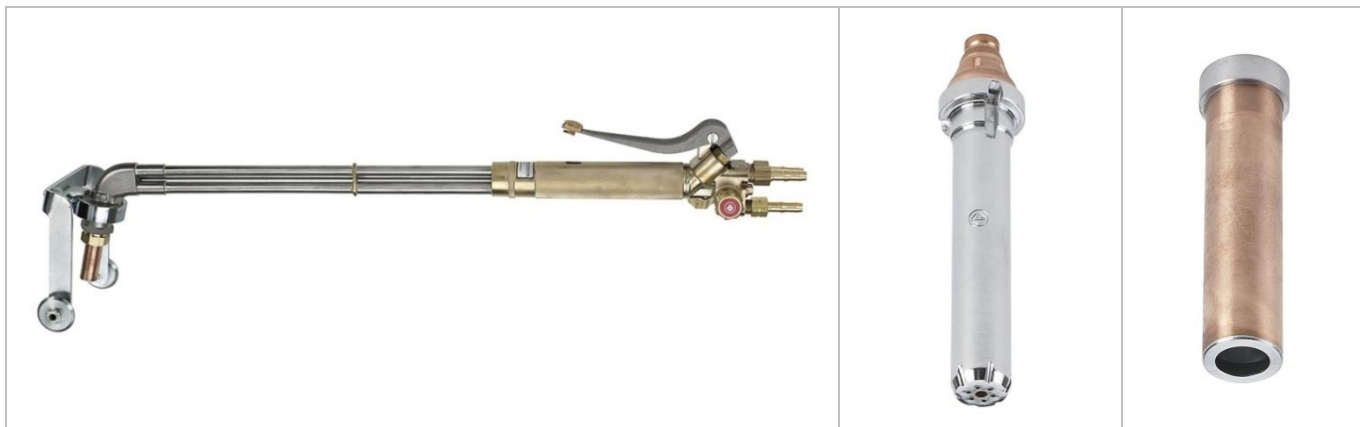
### Recommended gas supply for safe operation (in combination with oxygen)

Gas supply acetylene		SMB 663
Cutting range	Short operation until 20 minutes.	Permanently operation > 20 minutes
Up to 100 mm	3 Cylinders	6 Cylinders
Up to 200 mm	4 Cylinders	Bundle
Up to 300 mm	4 Cylinders	Bundle
Up to 400 mm	5 Cylinders	Bundle
Up to 500 mm	6 Cylinders	Bundle
Gas supply Propane		SMB 663
Cutting range	Short operation until 20 minutes.	Permanently operation > 20 minutes
Up to 100 mm	1 Cylinder	1 Cylinder
Up to 200 mm	1 Cylinder	2 Cylinders
Up to 300 mm	2 Cylinders	3 Cylinders
Up to 400 mm	2 Cylinders	4 Cylinders
Up to 500 mm	3 Cylinders	6 Cylinders
Up to 600 mm	4 Cylinders	Tank
Up to 700 mm	5 Cylinders	Tank

# SMB 663

HEAVY-DUTY HAND CUTTING TORCHES

Version: 10/2022



Powder hand cutting torch AC 41 with torch carriage

Powder cutting nozzles

Sleeve for powder cutting nozzle

### Powder hand cutting torch AC 41

With spring lever valve for simultaneous control of oxygen and powder, for cutting of heat resistant stainless steel and high-carbon steels up to 300 mm, and for Non-ferrous materials and cast iron up to 150 mm material thickness.

Fuel gas: acetylene or propane, methane (natural gas), Coal gas, MAPP.

Hose connections acc. to DIN 8542: G 3/8" RH-9 fuel gas G 3/8" LH-9, powder G 1/4" RH-6.

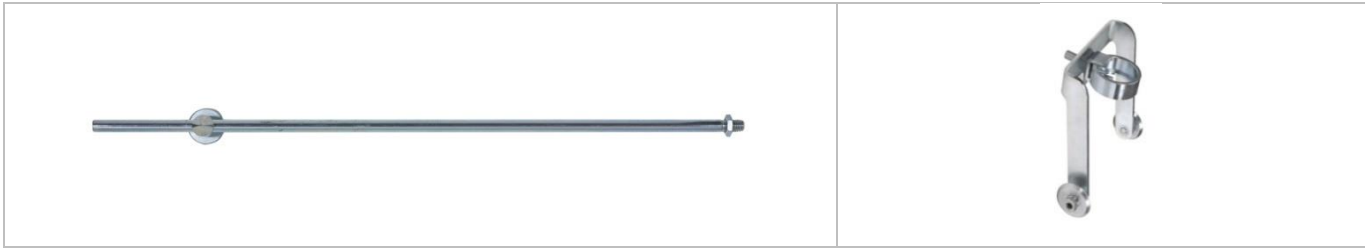
Operating date see page 19

Powder hand cutting torch AC 41 without accessories			AC 41	
Description		Art. No.	Cat. No.	
for acetylene, propane, methane (natural gas)	torch length 750 mm	716.01055	006	
Coal gas, MAPP	torch length 1050 mm	716.01070	006	

Powder cutting nozzles			AC 41	
Description	Cutting range	Art. No.	Cat. No.	
Powder cutting nozzle for acetylene	25 - 40 mm	716.00382	006	
	40 - 60 mm	716.00383	006	
	60 - 100 mm	716.00384	006	
	100 - 200 mm	716.00385	006	
	200 - 300 mm	716.00386	006	
Powder cutting nozzle for propane, methane (natural gas), Coal gas, MAPP	125 - 175 mm	552.01050	006	
	175 - 225 mm	552.01060	006	
	225 - 300 mm	552.01090	006	
Sleeve for Powder cutting nozzle		703.04032	006	





Circle rod complete

Torch carriage

AC 41		Accessories	
Description		Art. No.	Cat. No.
Torch carriage		553.02101	006
Radius bar complete		716.00699	038
Nozzle cleaners in case		052.29201	038
Rubber ring for sealing of powder cutting nozzle for AC 41		162.05430	006
Torch spanner		186.58074	038
Oxygen hose	9 mm	051.01060	043
Fuel gas hose	9 mm	051.00040	043
Compressed air hose	6 mm	770.20491	043
Powder hose	6 mm	770.20490	043
Powder distributor P75 Inlet pressure 10 bar max., Container pressure 1.0 bar max., Powder charge 75 kg max.		731.29840	006

### POWDER HAND CUTTING TORCH AC 41

Material thickness [mm]	Art. No. Cutting-nozzle	Nozzle clearance [mm]	Oxygen pressure [bar]	Fuel gas pressure [bar]	Cutting kef width [mm]	Oxygen consump. [m³/h]	Fuel gas consump. [m³/h]	Cutting speed [mm/min]	Powder consump. [kg/h]
Fuel gas acetylene									
25 - 40	716.00382	30 - 40	4,0	0,5	6,0	9,7	0,8	320 - 230	6 - 8
40 - 60	716.00383	30 - 40	4,0	0,5	8,0	14,3	1,0	190 - 140	8 - 10
60 - 100	716.00384	30 - 40	4,0	0,5	9,0	21,6	1,2	120 - 100	8 - 10
100 - 200	716.00385	30 - 40	5,0	0,5	12,0	31,0	1,4	80 - 70	10 - 12
200 - 300	716.00386	30 - 40	6,0	0,5	17,0	42,0	1,8	60 - 40	12 - 15

### POWDER HAND CUTTING TORCH AC 41

Material thickness [mm]	Art. No. Cutting nozzle	Nozzle clearance [mm]	Oxygen pressure [bar]	Fuel gas pressure [bar]	Cutting kef width [mm]	Oxygen consump. [m³/h]	Fuel gas consump. [m³/h]	Cutting speed [mm/min]	Powder consump. [kg/h]
Fuel gas propane									
125 - 175	552.01050	30 - 40	4,0	0,3	9,0	21,0	0,5	120 - 100	8 - 10
175 - 225	552.01060	30 - 40	5,5	0,3	12,0	31,0	0,6	80 - 70	10 - 12
225 - 300	552.01090	30 - 40	6,0	0,3	17,0	46,0	0,7	60 - 40	12 - 15

### POWDER HAND CUTTING TORCH AC 41

Material thickness [mm]	Art. No. Cutting nozzle	Nozzle clearance [mm]	Oxygen pressure [bar]	Fuel gas pressure [bar]	Cutting kef width [mm]	Oxygen consump. [m³/h]	Fuel gas consump. [m³/h]	Cutting speed [mm/min]	Powder consump. [kg/h]
Fuel gas methane (natural gas)									
125 - 175	552.01050	30 - 40	4,0	0,3	9,0	21,0	1,5	120 - 100	8 - 10
175 - 225	552.01060	30 - 40	5,5	0,3	12,0	31,0	1,7	80 - 70	10 - 12
225 - 300	552.01090	30 - 40	6,0	0,3	17,0	46,0	2,0	60 - 40	12 - 15

The tables indicate standard values based on the use of plain steel with a carbon content of up to 0.3 % and oxygen with a minimum purity of 99.5 % and by use of GRISINT® Iron-powder. The allowable particle size in the oxygen is 30 µm maximum. The pressure stated are gauge pressure measured at the torch inlet. The consumption data indicated in m³/h apply to the standard condition as per DIN 1343.

- Use only clean, undamaged nozzles.

### Recommended equipment for AC 41 for safe operation up to the maximum cutting ranges

Pressure regulator oxygen:	U13 with 10 Bar backpressure supplied by bundle or tank
Safety-device oxygen:	Demax 5
Pressure regulator fuel gas:	Constant (depending on type of fuel gas) or.ET65
Safety-device fuel gas:	DG 91 N
Oxygen-hose:	DN 9 G3/8" RH (optional metal braided)
Fuel gas-hose:	DN 9 G3/8" LH (optional metal braided)

### Equipment for operating with powder

The AC 41 already contains a powder device as standard.

Powder device:	P75
Powder:	Grisint
Pressure regulator compressed air:	Constant with 10 Bar backpressure
Safety device compressed air:	Not required
Comp. Air hose between tapping point and P75:	DN 6 G1/4"RH (optional metal braided)
Comp. Air hose between P75 and torch:	DN 6 G1/4"RH (optional metal braided) mind. 5m und max. 10m long

### Recommended gas supply for safe operation (in combination with oxygen)

AC 41		Gas supply acetylene
Cutting range	Short operation until 20 minutes.	Permanently operation > 20 minutes
Up to 40 mm	1 Cylinder	2 Cylinders
Up to 60 mm	2 Cylinders	2 Cylinders
Up to 100 mm	2 Cylinders	3 Cylinders
Up to 200 mm	2 Cylinders	3 Cylinders
Up to 300 mm	2 Cylinders	4 Cylinders
AC 41		Gas supply Propane
Cutting range	Short operation until 20 minutes.	Permanently operation > 20 minutes
Up to 175 mm	1 Cylinder	1 Cylinder
Up to 225 mm	1 Cylinder	1 Cylinder
Up to 300 mm	1 Cylinder	1 Cylinder

# POWDER DISTRIBUTOR P75

## Powder distributor P75

Powder distributors serve to feed iron powder or iron/aluminum powder mixtures to the powder cutting units. The powder mixtures to the powder cutting/scarfing oxygen stream, thus providing increased heat-resistant steels, cast iron and a number of non-ferrous metals can be cut.

The powder distributor P 75 with “cyclonic” powder mixing system, pressure regulator, oil trap and air drying unit are used to supply our SMB 600/663 hand cutting torches with powder attachment, AC 41 powder hand cutting torches and MSP 3320/190 machine cutting torches.

Connections:

Inlet G 1/4" - 6 for compressed air, oil-free and dry

Outlet G 1/4" - 6 for powder



Powder distributor and Cutting powder

**P75**

*Description*

*Art. No.*

*Cat. No.*

Powder distributor

Inlet pressure 10 bar max., Container pressure 1.0 bar max., Powder charge 75 kg max.

731.29840

006

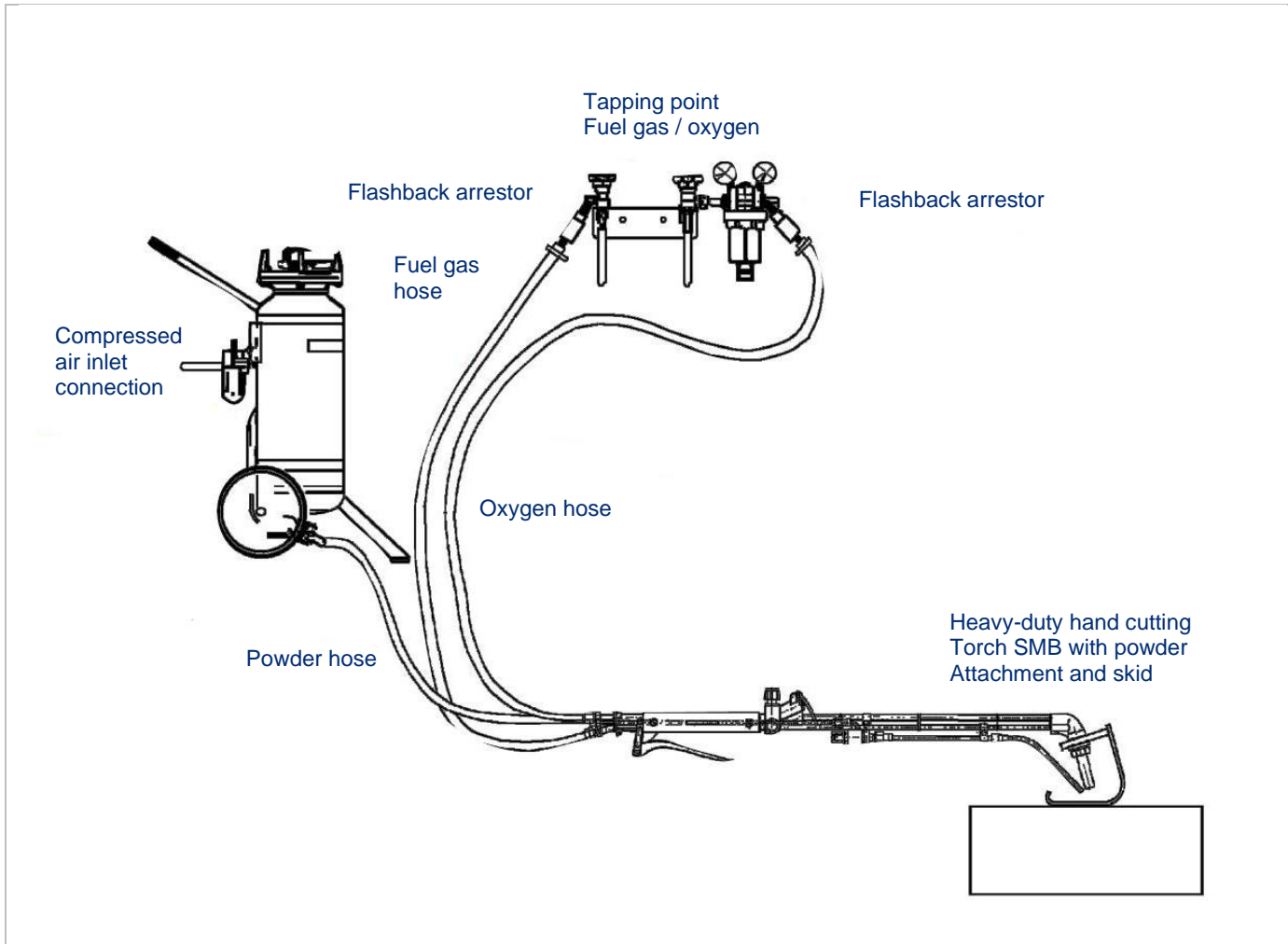
Cutting powder GRISINT®

for use with powder cutting equipment, 25 kg package

0.462.004

013

# POWDER DISTRIBUTOR P75



## Cutting values for heavy duty hand torch type SMB 663 with Fe powder unit

Oxygen purity:	min. 99,5 %
Test material:	Stainless steel CrNi 18/8 N
Fuel gas:	propane
Torch adjustment:	according to operating data for cutting nozzle type DBH-PMY (page 11 – 12)
Used powder:	GRISINT® (Art. No. 0.462.004), the values are approximate
Cutting speed tolerances:	approx. 20 %
Cut quality:	Oxyfuel hand cuts with FE powder addition depend heavily upon the skill of the operator. Without mechanical guidance only scrap quality can be achieved.
Note:	All data and especially the low wear with powder nozzles and valves can only be achieved if using the iron powder GRISINT® in combination powder distributor P75, as well as original Messer CS connecting parts.

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# MSP 3320/190

## POWDER MACHINE CUTTING TORCH



MSP 3320/190

Powder cutting nozzle

Sleeve for powder cutting nozzle

### Powder machine cutting torch MSP 3320/190

for cutting of stainless steel, high-carbon steels and non-ferrous materials from 25 up to 300 mm and of cast iron from 25 up to 150 mm material thickness.

Characteristics:

- Shaft diameter 32 mm
- Shaft length 190 mm
- Connections to DIN EN 560: G 1/2" RH for heating Oxygen, G 3/4" LH for fuel gas, G 3/4" RH for cutting Oxygen, G 1/4"RH for powder inlet
- Cutting range 50 - 300 mm

Powder machine cutting torch			MSP 3320/190	
Description		Art. No.	Cat. No.	
MSP 3320/190	Shaft length 190 mm	716.51510 *	006	

Powder cutting nozzles				MSP 3320	
Description	Cutting range	Art. No.	Cat. No.		
Powder cutting nozzles for acetylene	25 - 40 mm	716.00382	006		
	40 - 60 mm	716.00383	006		
	60 - 100 mm	716.00384	006		
	100 - 200 mm	716.00385	006		
	200 - 300 mm	716.00386	006		
Powder cutting nozzles for propane, methane (natural gas), Coal gas, MAPP	125 - 175 mm	552.01050	006		
	175 - 225 mm	552.01060	006		
	225 - 300 mm	552.01090	006		
Sleeve for powder cutting nozzle		703.04032	006		

Version: 10/2022

# MSP 3320/190

## POWDER MACHINE CUTTING TORCH

MSP 3320			Accessories
Description	Connection	Art. No.	Cat. No.
Adjusting valve for heating oxygen	G 1/4" RH-6	718.00500	005
Adjusting valve for cutting oxygen	G 3/8"-6	718.00501	005
Adjusting valve for Fuel gas	G 3/8" LH-6	718.00502	005
Powder shut-off valve	G 1/4" RH-6	716.51375	004
Flashback arrestor Heating oxygen	G 1/4"	0.647.583	041
Flashback arrestor Cutting oxygen	G 3/8"	0.647.584	041
Flashback arrestor Fuel gas	G 3/8" LH	0.346.364	041

POWDER MACHINE CUTTING TORCH MSP 3320										
Material-thickness [mm]	Art. No. cutting nozzle	Heating oxygen pressure [bar]	Cutting oxygen pressure [bar]	Fuel gas pressure [bar]	Nozzle clearance [mm]	Cutting speed [mm/min]	Cutting kerf width [mm]	Oxygen consump. [m <sup>3</sup> /h]	Fuel gas consump. [m <sup>3</sup> /h]	Powder consump. [kg/h]
Fuel gas acetylene										
25 - 40	716.00382	0,5	4,0	0,5	30 - 40	320-230	6,0	10,7	1,0	6 - 8
40 - 60	716.00383	0,6	4,0	0,5	30 - 40	190-140	8,0	13,8	1,2	8 - 10
60 - 100	716.00384	0,7	4,8	0,5	30 - 40	120-100	9,0	20,1	1,4	8 - 10
100 - 200	716.00385	1,0	5,5	0,5	30 - 40	80-70	12,0	28,4	1,6	10 - 12
200 - 300	716.00386	1,3	6,0	0,5	30 - 40	60-40	17,0	41,2	1,8	10 - 12
Fuel gas propane										
125 - 175	552.01050	4,5	4,7	0,5	30 - 40	120-100	9,0	20,1	0,5	8 - 10
175 - 225	552.01060	5,5	5,5	0,5	30 - 40	80-70	12,0	28,4	0,6	10 - 12
225 - 300	552.01090	6,0	6,0	0,5	30 - 40	60-40	17,0	41,2	0,7	10 - 12
Fuel gas methane (natural gas)										
125 - 175	552.01050	5,0	4,7	0,5	30 - 40	120-100	9,0	21,5	1,5	8 - 10
175 - 225	552.01060	6,0	5,5	0,5	30 - 40	80-70	12,0	31,0	1,7	10 - 12
225 - 300	552.01090	6,5	6,0	0,5	30 - 40	60-40	17,0	44,0	2,0	10 - 12

The tables indicate standard values based on the use of plain steel with a carbon content of up to 0.3 % and oxygen with a minimum purity of 99.5 % and by use of GRISINT® Iron-powder. The allowable particle size in the oxygen is 30 µm maximum. The pressure stated are gauge pressure measured at the torch inlet. The consumption data indicated in m<sup>3</sup>/h apply to the standard condition as per DIN 1343.

- Use only clean, undamaged nozzles.

# PRESTOCUT® F 651 / F 655

HEAVY-DUTY MACHINE CUTTING TORCHES



PRESTOCUT® F 651 / F 655

## PRESTOCUT® F 651 / F 655

Water-cooled Heavy-Duty Machine Cutting Torch, for cold cuts and hot cuts of non-alloyed material (with powder attachment) with workpiece thickness of 50 to 500 mm

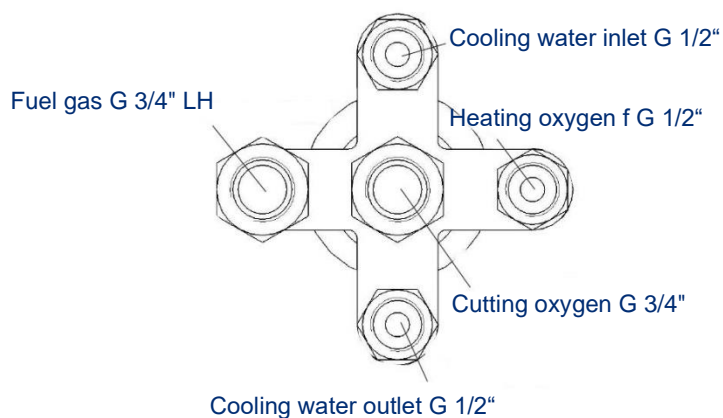
Models:

- F 651 with shaft length 1.000 mm
- F 655 with shaft length 500 mm

Characteristics:

- High cutting speed through special design
- Economical media consumption through low Oxygen metal factor
- Long life through large nozzle stand-off
- "Flying" start of cut thanks to high heat input
- Highly economical thanks to narrow cut width
- Long life through easy maintenance
- Flexible use, both on hot and cold materials
- Robust design appropriate for the steel industry
- Solid hose connection block and torch head made of brass
- Torch shaft made of brass or stainless steel
- Complete water cooled including torch head
- Torch length 500 and 1000 mm
- Shaft diameter 50 mm
- Connections according to DIN EN 560
  - G 1/2" RH for heating oxygen, G 3/4" LH for fuel gas, G 3/4" RH for cutting oxygen, G 1/2" RH for cooling water inlet and outlet
- Cutting range 50 - 600 mm

Connections:





# PRESTOCUT® F 651 / F 655

HEAVY-DUTY MACHINE CUTTING TORCHES

## PRESTOCUT® F 651 / F 655

Heavy duty machine cutting torches with brass shaft, without torch head



Description	Shaft length	Art.-No.	Cat.-No.
PRESTOCUT® F 655	500 mm	716.51935	006

Shaft diameter: 50 mm / Cutting range up to 500 mm

**with bendable copper tubes as inlet connections**  
**Shaft out of brass**

## PRESTOCUT® F 651 / F 655

Heavy duty machine cutting torches with brass shaft



Description	Shaft length	Art.-No.	Cat.-No.
PRESTOCUT® F 655	500 mm	716.51939	006

Shaft diameter: 50 mm / Cutting range up to 500 mm

**Shaft out of brass**

## PRESTOCUT® F 651 / F 655

Heavy duty machine cutting torches with stainless steel shaft



Description	Shaft length	Art.-No.	Cat.-No.
PRESTOCUT® F 655	500 mm	716.51937	006

Shaft diameter: 50 mm / Cutting range up to 500 mm

**Shaft out of stainless steel**

# PRESTOCUT® F 651 / F 655

HEAVY-DUTY MACHINE CUTTING TORCHES

## Heavy duty gas-mixing nozzle PRESTOCUT® DF-PM

Description	Cutting range	Art.-No.	Cat.-No.
DF 18-PM	50 – 300 mm	716.14064	006
DF 26-PM	50 – 400 mm	716.14065	006
DF 33-PM	50 – 500 mm	716.14066	006
DF 36-PM	50 – 500 mm	716.14061	006



Heavy duty gas-mixing nozzle / flat sealing

HEAVY DUTY CUTTING NOZZLE (GAS-MIXING) PRESTOCUT® DF -PM									
Material thickness [mm]	Cutting nozzle	Heating oxygen [bar]	Cutting oxygen [bar]	Fuel gas [bar]	Nozzle clearance [mm]	Cutting speed [mm/min]	Cutting kerf [mm]	Oxygen consumption [m³/h]	Fuel gas consumption [m³/h]
Fuel gas Propane									
DF 18-PM	50	2,0 – 3,0	18	0,5 – 0,8	120	590	5 – 7	50	10
	– 300		– 20		– 150	– 160			
DF 26-PM	50	2,0 – 3,0	14	0,5 – 0,8	120	590	7 – 10	50	10
	– 400		– 16		– 150	– 80			
DF 33-PM	50	2,0 – 3,0	12	0,5 – 0,8	120	590	7 – 12	62	10
	– 500		– 14		– 150	– 40			
DF 36-PM	50	2,0 – 3,0	10	0,5 – 0,8	120	590	7 – 12	62	10
	– 500		– 11		– 150	– 40			
Fuel gas Methane (Town gas)									
DF 18-PM	50	2,0 – 3,0	18	1,4 – 2,2	120	590	5 – 7	50	27
	– 300		– 20		– 150	– 160			
DF 26-PM	50	2,0 – 3,0	14	1,4 – 2,2	120	590	7 – 10	50	29
	– 400		– 16		– 150	– 80			
DF 33-PM	50	2,0 – 3,0	12	1,4 – 2,2	120	590	7 – 12	62	29
	– 500		– 14		– 150	– 40			
DF 36-PM	50	2,0 – 3,0	10	1,4 – 2,2	120	590	7 – 12	62	29
	– 500		– 11		– 150	– 40			

The table indicate standard values based on the use of plain steel with a carbon content of up to 0,3% and oxygen with a minimum purity of 99,5%. The allowable particle size in the oxygen is 30 µm maximum. The pressures stated are gauge pressure measured at the torch inlet.

- Satisfactory cuts on clean and crack-free work pieces can be achieved with undamaged nozzles and suitable flame cutting machines. The given cutting speeds are valid for old material and are to increase depending upon the work-piece temperature by hot cuts. The consumption data indicate in m³/h applies to the standard condition as per DIN 1343.

# PRESTOCUT® F 651 / F 655

HEAVY-DUTY MACHINE CUTTING TORCHES

## PRESTOCUT® DFP-PM

Heavy duty gas-mixing nozzle inner- / outer mixing / flat sealing



Description	Cutting range	Art.-No.	Cat.-No.
DFP 18-PM	50 – 300 mm	716.51940	006
DFP 26-PM	50 – 400 mm	716.51941	006
DFP 33-PM	50 – 500 mm	716.51942	006
DFP 36-PM	50 – 500 mm	716.51943	006

Heavy duty gas-mixing nozzle inner- / outer mixing / flat sealing

## HEAVY DUTY CUTTING NOZZLE (INNER- / OUTER-MIXING) PRESTOCUT® DFP -PM

Material thickness [mm]	Cutting nozzle	Heating oxygen [bar]	Cutting oxygen [bar]	Fuel gas [bar]	Nozzle clearance [mm]	Cutting speed [mm/min]	Cutting kerf [mm]	Oxygen consumption [m³/h]	Fuel gas consumption [m³/h]
Fuel gas Propane									
DFP 18-PM	50	1,5 – 1,8	18	0,5	120	590	5 – 7	40	2 – 4
	– 300		– 20		– 150	– 160			
DFP 26-PM	50	1,5 – 1,8	14	0,5	120	590	7 – 10	52	2 – 5
	– 400		– 16		– 150	– 80			
DFP 33-PM	50	1,5 – 1,8	12	0,5	120	590	7 – 12	52	2 – 6
	– 500		– 14		– 150	– 40			
DFP 36-PM	50	1,5 – 1,8	10	0,5	120	590	7 – 12	52	2 – 6
	– 500		– 11		– 150	– 40			
Fuel gas Methane (Town gas)									
DFP 18-PM	50	1,5 – 1,8	18	1,1	120	590	5 – 7	40	6 – 10
	– 300		– 20		– 150	– 160			
DFP 26-PM	50	1,5 – 1,8	14	1,1	120	590	7 – 10	52	6 – 12
	– 400		– 16		– 150	– 80			
DFP 33-PM	50	1,5 – 1,8	12	1,1	120	590	7 – 12	52	6 – 16
	– 500		– 14		– 150	– 40			
DFP 36-PM	50	1,5 – 1,8	10	1,1	120	590	7 – 12	52	6 – 16
	– 500		– 11		– 150	– 40			

The table indicate standard values based on the use of plain steel with a carbon content of up to 0,3% and oxygen with a minimum purity of 99,5%. The allowable particle size in the oxygen is 30 µm maximum. The pressures stated are gauge pressure measured at the torch inlet.

Satisfactory cuts on clean and crack-free work pieces can be achieved with undamaged nozzles and suitable flame cutting machines. The given cutting speeds are valid for old material and are to increase depending upon the work-piece temperature by hot cuts. The consumption data indicate in m³/h applies to the standard condition as per DIN 1343.

Version: 10/2022

# PRESTOCUT® M 651

## HEAVY-DUTY MACHINE CUTTING TORCHES



PRESTOCUT® M 651



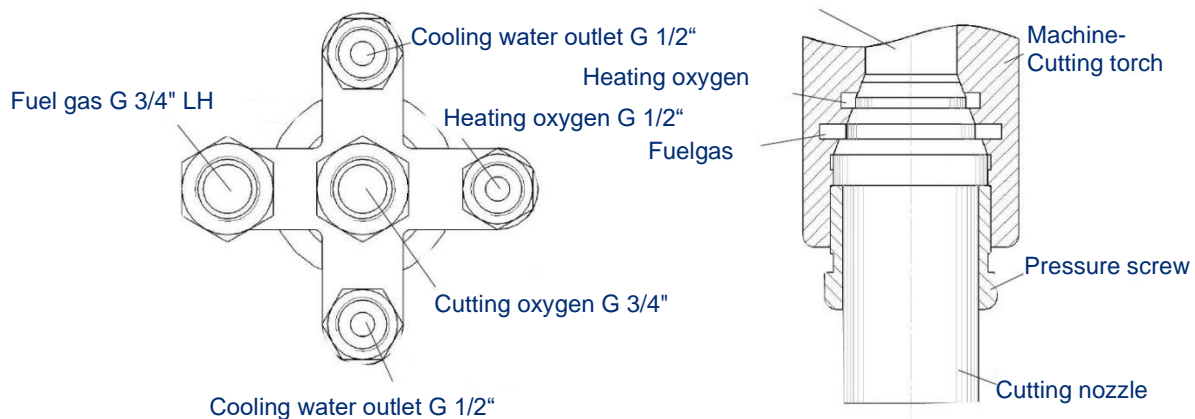
Cutting Nozzle PB 318-PM

### PRESTOCUT® M 651

Water-cooled Heavy-Duty Machine Cutting Torch, for cold cuts and hot cuts of non-alloyed material (with powder attachment) with workpiece thickness of 50 to 600 mm

#### Characteristics:

- High cutting speed through special design
- Economical media consumption through low Oxygen metal factor
- Long life through large nozzle stand-off
- "Flying" start of cut thanks to high heat input
- High work reliability due to conical seal
- Highly economical thanks to narrow cut width
- Long life through easy maintenance
- Flexible use, both on hot and cold materials
- Suitable for all fuel gases (beside acetylene)
- Smooth surface with low edge melting
- Universal design for both nozzle mixing and external mixing heavy-duty cutting nozzles
- Robust design appropriate for the steel industry
- Solid hose connection block and torch head made of brass
- Torch shaft made of brass or stainless steel
- Complete water cooled including torch head
- Torch length 1000 mm and different length on request
- Shaft diameter 50 mm
- Connections according to DIN EN 560  
G 1/2" RH for heating oxygen, G 3/4" LH for fuel gas, G 3/4" RH for cutting oxygen,  
G 1/2" RH for cooling water inlet and outlet
- Quality guarantee through 100 % testing of both the torch and the nozzles
- End faces of the nozzles can be reworked up to 3 mm
- Cutting range 50 - 600 mm



# PRESTOCUT® M 651

HEAVY-DUTY MACHINE CUTTING TORCHES

PRESTOCUT® DB-PM 318 + 618, PB 318 + 618			Heavy Duty Cutting nozzle	
Description	Cutting range	Art.-No.	Cat.-No.	
DB 318-PM (gas mixing)	50 - 300 mm	731.26594	006	
DB 618-PM (gas mixing)	300 - 600 mm	731.25507	006	
PB 318-PM (external mixing)	50 - 300 mm	731.29417	006	
PB 618-PM (external mixing)	300 - 600 mm	731.25508	006	

HEAVY DUTY CUTTING NOZZLE (GAS-MIXING) PRESTOCUT® DB 318-PM									
Material thickness [mm]	Cutting nozzle	Heating oxygen [bar]	Cutting oxygen [bar]	Fuel gas [bar]	Nozzle clearance [mm]	Cutting speed [mm/min]	Cutting kerf [mm]	Oxygen consumption [m³/h]	Fuel gas consumption [m³/h]
Fuel gas Propane									
50					130	360	6 - 7	60	4,5
100	731.26594	1,0	10	≤ 0,3	130	320	6 - 7	60	4,5
200					130	200	6 - 7	60	4,5
300					130	150	6 - 7	60	4,5
Fuel gas Methane (town gas)									
50					130	360	6 - 7	62,5	17,0
100	731.26594	1,0	10	0,3 - 0,5	130	320	6 - 7	62,5	17,0
200					130	200	6 - 7	62,5	17,0
300					130	150	6 - 7	62,5	17,0

HEAVY DUTY CUTTING NOZZLE (GAS-MIXING) PRESTOCUT® DB 618-PM									
Material thickness [mm]	Cutting nozzle	Heating oxygen [bar]	Cutting oxygen [bar]	Fuel gas [bar]	Nozzle clearance [mm]	Cutting speed [mm/min]	Cutting kerf [mm]	Oxygen consumption [m³/h]	Fuel gas consumption [m³/h]
Fuel gas Propane									
300					130	150	8 - 10	114	8,0
400	731.25507	1,4	10	≤ 0,3	130	110	8- 10	114	8,0
500					130	90	8- 10	114	8,0
600					130	60	8- 10	114	8,0
Fuel gas Methane (Town gas)									
300					130	150	8 - 10	116	23,0
400	731.25507	1,8	10	0,7	130	110	8 - 10	116	23,0
500					130	90	8 - 10	116	23,0
600					130	60	8 - 10	116	23,0

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# PRESTOCUT® M 651

## HEAVY-DUTY MACHINE CUTTING TORCHES

### HEAVY DUTY CUTTING NOZZLE (GAS-MIXING) PRESTOCUT® PB 318-PM

Material thickness [mm]	Cutting nozzle	Heating oxygen [bar]	Cutting oxygen [bar]	Fuel gas [bar]	Nozzle clearance [mm]	Cutting speed [mm/min]	Cutting kerf [mm]	Oxygen consumption [m³/h]	Fuel gas consumption [m³/h]
Fuel gas Propane									
50					130	360	6 - 7	55,0	3,8
100	731.29417	0,2 - 0,5	10	0,08	130	320	6 - 7	55,0	3,8
200					130	200	6 - 7	55,0	3,8
300					130	150	6 - 7	55,0	3,8
Fuel gas Methane (Town gas)									
50					130	360	6 - 7	54,0	10,0
100	731.29417	0,2	10	0,25	130	320	6 - 7	54,0	10,0
200					130	200	6 - 7	54,0	10,0
300					130	150	6 - 7	54,0	10,0

### HEAVY DUTY CUTTING NOZZLE (GAS-MIXING) PRESTOCUT® PB 618-PM

Material thickness [mm]	Cutting nozzle	Heating oxygen [bar]	Cutting oxygen [bar]	Fuel gas [bar]	Nozzle clearance [mm]	Cutting speed [mm/min]	Cutting kerf [mm]	Oxygen consumption [m³/h]	Fuel gas consumption [m³/h]
Fuel gas Propane									
300					130	150	8 - 10	105	6,0
400	731.25508	0,2 - 0,5	10	0,2	130	110	8 - 10	105	6,0
500					130	90	8 - 10	105	6,0
600					130	60	8 - 10	105	6,0
Fuel gas Methane (Town gas)									
300					130	150	8 - 10	104	15,0
400	731.25508	0,2	10	0,5	130	110	8 - 10	104	15,0
500					130	90	8 - 10	104	15,0
600					130	60	8 - 10	104	15,0

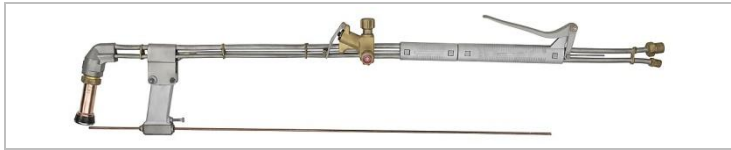
The table indicate standard values based on the use of plain steel with a carbon content of up to 0,3% and oxygen with a minimum purity of 99,5%. The allowable particle size in the oxygen is 30 µm maximum. The pressures stated are gauge pressure measured at the torch inlet.

- Satisfactory cuts on clean and crack-free work pieces can be achieved with undamaged nozzles and suitable flame cutting machines. The given cutting speeds are valid for old material and are to increase depending upon the work-piece temperature by hot cuts. The consumption data indicate in m³/h applies to the standard condition as per DIN 1343.

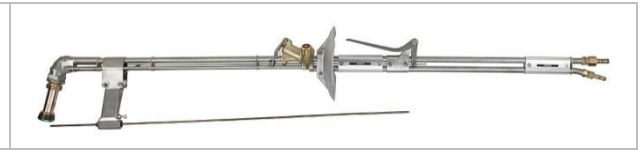
# PRESTOCUT® M 651

HEAVY-DUTY MACHINE CUTTING TORCHES

Version: 10/2022



FB 1000



FB 1600 / 2000



FBK 1600



GRISCARF® 5360-PM



FD 16

### Hand scarfing torch FB 1000 and FB 1600 and Ingot mould scarfing torch FBK 1600

with spring lever for control of scarfing oxygen, on the FB the ignition wire feed is triggered simultaneously. The area of application is the correction of cracks, slag inclusions and defects in blocks, ingots slabs and castings of unalloyed and alloyed steels. The modelling of swrought work and the partial scarfing as well as the scarfing out of burnt, cracked material from the inner surfaces of ingots.

#### Characteristics:

- Scarfing width FB 1000 = 40 mm, FB 1600 + FBK 1600 = 90 mm
- Connections to DIN EN 560 (G 1/2" RH-11 for oxygen, G 3/8" LH-9 for fuel gas)
- Fuel gases acetylene (A), propane (P), methane (M) and coal gas

Hand scarfing torch/ Ingot scarfing torch			FB + FBK	
Description		Art.-No.	Cat.-No.	
FB 1000	torch length 1260 mm	716.50051	006	
FB 1600	torch length 1500 mm	716.50191	006	
FB 1600	torch length 1325 mm	716.50192	006	
FB 1600	torch length 1175 mm	716.50180	006	
FB 2000	torch length 1500 mm	716.50195	006	
FB 2000	torch length 1390 mm	716.50193	006	
FBK 1600	torch length 1800 mm	716.50212	006	

Scarfing nozzles		GRISCARF® 5310-A + 5360-PM / FD 16		
Description	Scarfing width	Art.-No.	Kat.-No.	
Scarfing nozzle GRISCARF® 5310-A for FB 1000	40 mm	716.50089	012	
Scarfing nozzle GRISCARF® 5360-PM for FB 1000	40 mm	716.50088	012	
Scarfing nozzle FD 16 for FB 1600 and FBK 1600 with wear-resistant stellite ring	90 mm	716.50232	012	
Scarfing nozzle FD 20 for FB 2000 with wear-resistant stellite ring	110 mm	716.50231	012	



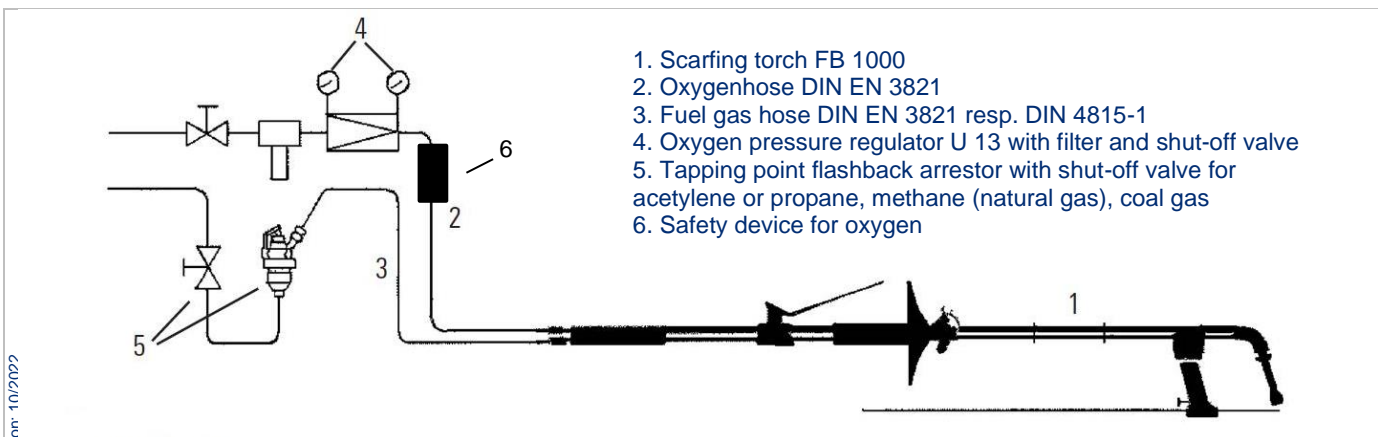
### FB 1000 / FB 1600 / FBK 1600

Accessories

Description	Art.-No.	Cat.-No.
Heat protective shield	716.50181	006
Nozzle cleaners in case	052.29201	038
Oxygen hose 11 mm	051.01200 *	043
Oxygen hose 13 mm	051.02940 *	043
Fuel gas hose 9 mm	051.00040	043
Propane hose	051.02130	043

### SCARFING NOZZLES GRISCARF® 5310 + 5360 / FD 16 / FD 20

Description	Art. No.	Oxygen pressure [bar]	Fuel gas pressure [bar]	Scarfig oxygen consumption [m³/h]	Scarfig speed [mm/min]	Heating oxygen consumption [m³/h]	Fuel gas consumption [m³/h]
Fuel gas Acetylene							
GRISCARF® 5310-A	716.50089	4,0 - 5,0	0,5	70 - 80	8 - 10	3,0	2,3
Fuel gas Propane							
GRISCARF® 5360-PM	716.50088	4,0 - 5,0	0,5	70 - 80	8 - 10	5,0	1,3
FD 16	716.50232	2,5 - 3,5	0,3	150 - 190	8 - 10	6,0	1,7
FD 20	716.50231	4,0 - 5,0	0,5	250 - 320	8 - 10	8,0	2,3
Fuel gas Methane (Natural gas)							
GRISCARF® 5360-PM	716.50088	4,0 - 5,0	0,5	70 - 80	8 - 10	5,0	3,3
FD 16	716.50232	3,0	0,5	150 - 190	8 - 10	8,5	5,8
FD 20	716.50231	4,0 - 5,0	0,7	250 - 320	8 - 10	12,0	8,2
Fuel gas Coal gas							
GRISCARF® 5360-PM	716.50088	4,0 - 5,0	0,5	70 - 80	8 - 10	5,0	7,5
FD 16	716.50232	2,5 - 3,5	0,4 - 0,6	150 - 190	8 - 10	6,0	10,0
FD 20	716.50231	4,0 - 5,0	0,7 - 0,9	250 - 320	8 - 10	8,0	13,3



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### Recommended equipment for FB 1000 for safe operation with all nozzle sizes

Pressure regulator oxygen:	U13 with 10 Bar backpressure supplied by bundle or tank
Safety-device oxygen:	Simax 3
Pressure regulator fuel gas:	Constant (depending on type of fuel gas) or.ET65
Safety-device fuel gas:	DG 91 N
Oxygen-hose:	DN 11 G1/2" RH (optional metal braided)
Fuel gas-hose:	DN 9 G3/8" LH (optional metal braided)

Gas supply acetylene		FB 1000
Nozzle	Short operation until 20 minutes.	Permanently operation > 20 minutes
Griscarf 5310-A	3 Cylinders	5 Cylinders

Gas supply Propane		FB 1000
Nozzle	Short operation until 20 minutes.	Permanently operation > 20 minutes
Griscarf 5360-PM	1 Cylinder	2 Cylinders

### Recommended equipment for FB 1600 and FBK 16000 for safe operation with all nozzle sizes

Pressure regulator oxygen:	U13 with 10 Bar backpressure supplied by tank
Safety-device oxygen:	Simax 5
Pressure regulator fuel gas:	Constant (depending on type of fuel gas) or.ET65
Safety-device fuel gas:	DG 91 N
Oxygen-hose:	DN 13 G1/2" RH (optional metal braided)
Fuel gas-hose:	DN 9 G3/8" LH (optional metal braided)

Gas supply Propane		FB 1600 & FBK 1600
Nozzle	Short operation until 20 minutes.	Permanently operation > 20 minutes
FD 16	2 Cylinders	3 Cylinders

### Recommended equipment for FB 1600 and FBK 16000 for safe operation with all nozzle sizes

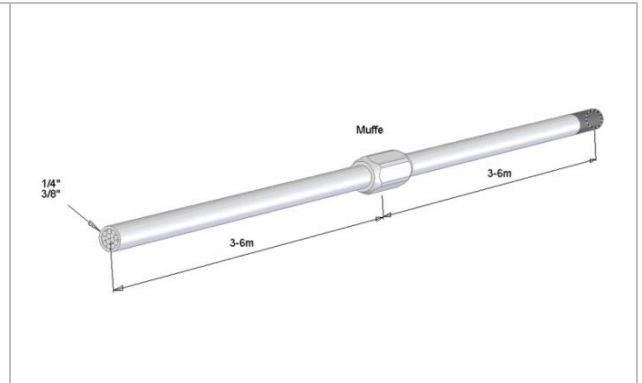
Pressure regulator oxygen:	U23 Form B with 10 Bar backpressure supplied by tank
Safety-device oxygen:	Simax 8
Pressure regulator fuel gas:	Constant (depending on type of fuel gas) or.ET65
Safety-device fuel gas:	DG 91 N
Oxygen-hose:	DN 13 G1/2" RH (optional metal braided)
Fuel gas-hose:	DN 9 G3/8" LH (optional metal braided)

Gas supply Propane		FB 2000
Nozzle	Short operation until 20 minutes.	Permanently operation > 20 minutes
FD 20	2 Cylinders	3 Cylinders





Lance holder



Oxygen lances

The oxygen lance is a thermal separation process that can be used for a wide variety of materials and applications. The oxygen lance consists of an oxygen lance holder and the oxygen lance tubes.

- Dividing large metal parts (including all alloys and for all material thicknesses)
- Demolition work (concrete and stone)
- Parting of bung plugs
- Piercing out bolts

## Lance holder BRH

Description	Art. No.	Cat. No.
BRH 1/4 with monoblock-valve	716.14116	006
BRH 3/8 with monoblock-valve	716.14117	006
BRH 1/2 with monoblock-valve	716.14236	006
BRH 1/4 with ball valve	716.14260	006
BRH 3/8 with ball valve	716.14261	006

## Lance holder with integrated slag backflow arrestor BRH-S

Description	Art. No.	Cat. No.
BRH 1/4 with monoblock-valve and slag backflow arrestor	716.14264	006
BRH 3/8 with monoblock-valve and slag backflow arrestor	716.14265	006
BRH 1/4 with ball valve and slag backflow arrestor	716.14266	006
BRH 3/8 with ball valve and slag backflow arrestor	716.14267	006

## Lance holder with spring lever with integrated slag backflow arrestor BRH

Description	Art. No.	Cat. No.
BRH 1/4 with spring lever and slag backflow arrestor	*	006
BRH 3/8 with spring lever and slag backflow arrestor	*	006

## Oxygen lance tubes BRH

Description	Length	Working pressure	Consumption	Art. No.	Cat. No.
Oxygen lance tube 1/4	3.0 m	6.0 – 7.0 bar	30 m <sup>3</sup> / h	0.463.0143	000
Oxygen lance tube 3/8	1.5 m	6.0 – 8.0 bar	80 m <sup>3</sup> / h	716.14142	000
Oxygen lance tube 3/8	3.0 m	6.0 – 8.0 bar	80 m <sup>3</sup> / h	0.463.0383	000
Oxygen lance tube 3/8	4.0 m	6.0 – 8.0 bar	80 m <sup>3</sup> / h	0.463.0384	000
Oxygen lance tube 3/8	6.0 m	6.0 – 8.0 bar	80 m <sup>3</sup> / h	0.463.0386	000
Oxygen lance tube 1/2	3.0 m	10.0 – 12.0 bar	120 m <sup>3</sup> / h	0.463.0123	000

## Accessories

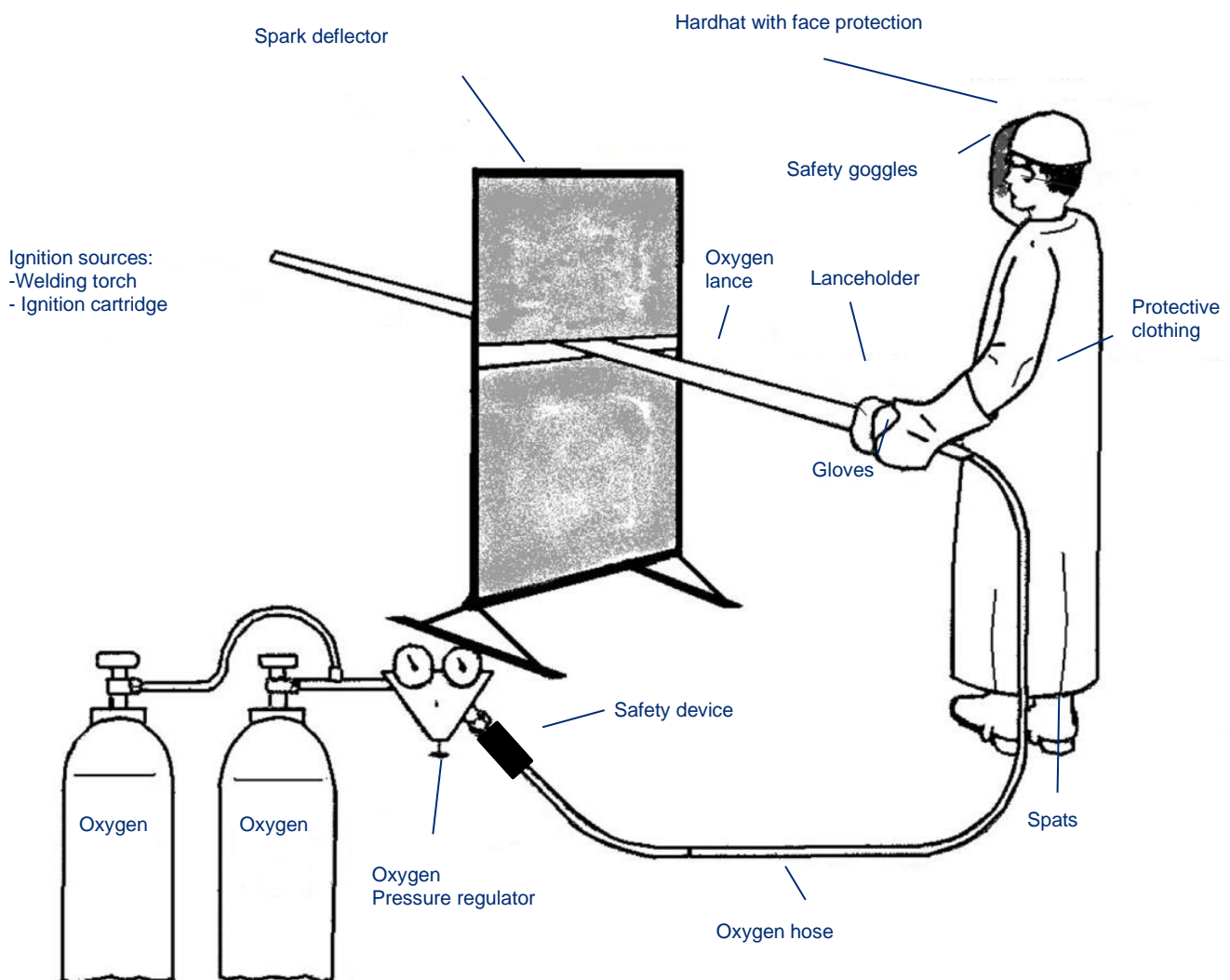
BRH

Description	Art. No.	Cat. No.
Replacement clamp shaft ESPH 1/4	716.14118	006
Replacement clamp shaft ESPH 3/8	716.14119	006
Replacement clamp shaft ESPH 1/2	716.14237	006
Cylinder regulator U 13 F Inlet pressure 200 bar / Outlet pressure 10 bar	509.99850	004
Cylinder regulator U 13 F Inlet pressure 200 bar / Outlet pressure 20 bar	509.99900	004
Cylinder regulator U 13 F Inlet pressure 300 bar / Outlet pressure 10 bar	717.06901	004
Cylinder regulator U 13 F Inlet pressure 300 bar / Outlet pressure 20 bar	717.06902	004

## Handling of Oxygen lances

The minimum equipment required for handling Oxygen lances is:

- Lance holder (BRH)
- Oxygen hose, metallically armoured, with at least 9 mm internal diameter
- Oxygen cylinder regulator (U 13 F)
- Safety device (DEMAX 5)
- Strongly flame resistant personal protective clothing





Cylinder pressure regulator U 13 F

## U 13 F

### Characteristics:

- Constant working pressure through large membrane area, even with varying cylinder pressures, exact adjustments
- Safety: protected against burning out by special arrangement and quality of the seal and membrane materials
- Optimum flow characteristics and large housing surface hinder freezing
- Resistant to fluctuations through indirectly impinged membrane. Gas flow is not fed through the membrane chamber
- Resistance to burning out confirmed by BAM test
- Trade body certification 1 BG 65

### Connections

- At the inlet a cylinder valve connection for the type of gas and at the outlet removable hose connections according to the applicable national standards

### Safety valve

- Blows off upwards with connection for exhaust gas removal line

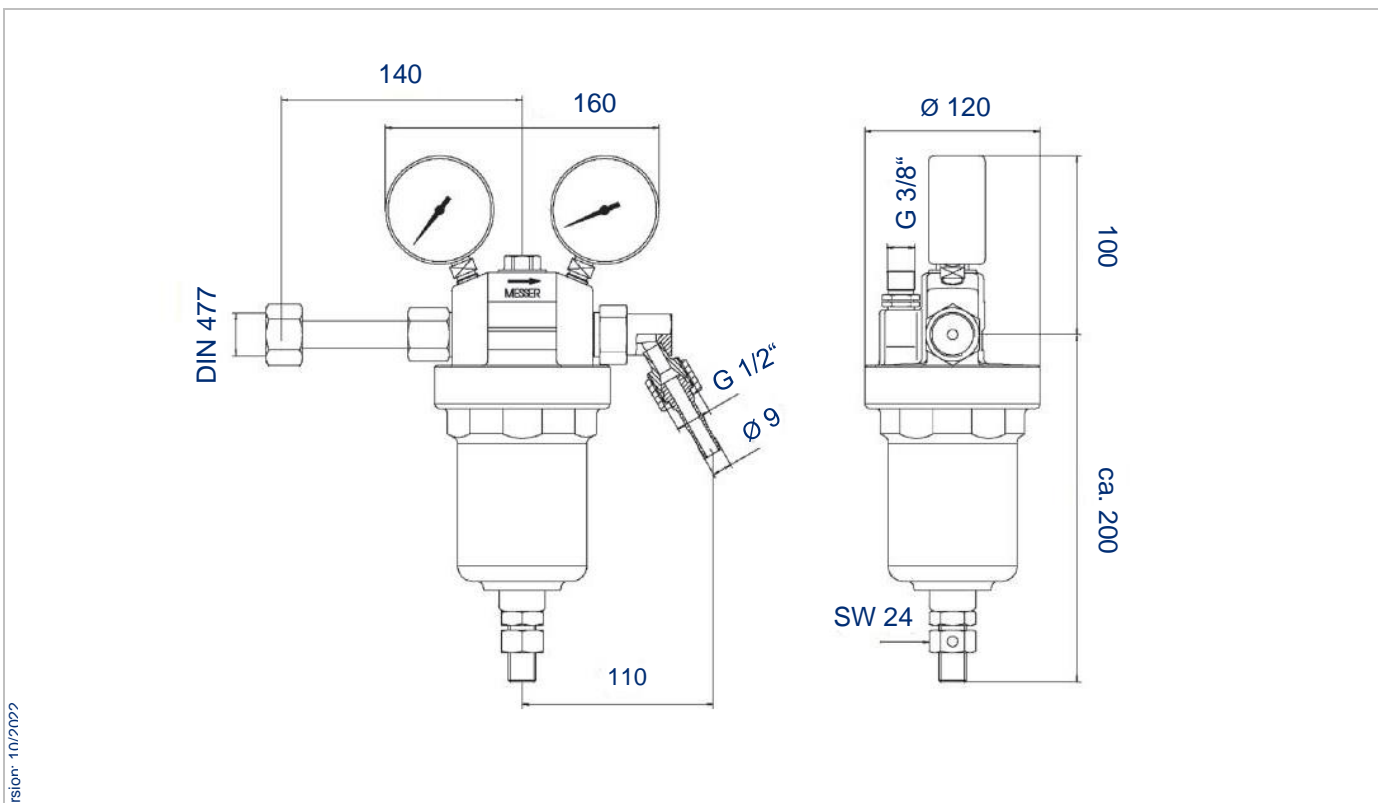
### Characteristic

L10 = 6

## Gas flow

Inlet pressure	Flow rate (m <sup>3</sup> /h) Oxygen <sup>1)</sup> With outlet pressure [bar]			
	5	10	15	20
50	200	200	200	200
30	150	150	150	150
20	100	100	100	-
15	80	80	-	-

Description	Back-Pressure	Art. No.	Cat. No.
Cylinder pressure regulator U 13 F For oxygen inlet pressure 200 Bar	10 bar	509.99850	004
Cylinder pressure regulator U 13 F For oxygen inlet pressure 200 Bar	20 bar	509.99900	004
Cylinder pressure regulator U 13 F For oxygen inlet pressure 300 Bar	10 bar	717.06901	004
Cylinder pressure regulator U 13 F For oxygen inlet pressure 300 Bar	20 bar	717.06902	004



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# Protective Equipment

## Protective Equipment

<i>Description</i>	<i>Art. No</i>	<i>Cat. No.</i>
Hard hat respirator	770.20500	000



## Protective Equipment

<i>Description</i>	<i>Art. No</i>	<i>Cat. No.</i>
Safety helmet	716.14137	042
Apron flame	716.14138	042
Gauntlet glove	716.14139	042
Gaiters	770.21919	042
Visor frame protective for helmet respiratory protection	770.20501	000
Over visor gold protective for helmet respirator	770.20502	000
Heat protection cover	770.20503	000





# CREATING SOLUTIONS BEYOND MACHINES

## What we stand for

### PRODUCT

Messer Cutting Systems is a global supplier of cutting edge technology for the metalworking industry.

### AUTOMATION

With over 900 employees worldwide in over 50 countries, we maintain a constant dialogue with our customers to achieve sustainable user-oriented innovation.

### DIGITAL

### SERVICES

Our portfolio embraces the themes PRODUCT, DIGITAL, SERVICES, AUTOMATION and KNOW-HOW. We will live up to our claim "creating solutions beyond machines" not just with the most modern cutting systems and solutions for oxyfuel technology.

### KNOW-HOW

Appropriate services and training, our own software applications as well as the integration of solutions from our technology partners, e. g. in the field of automation, complete the machine to give forward-looking total solutions.

Our know-how combined with our customer-oriented attitude and actions have made us the worldwide partner of choice for innovative total solutions on all aspects of cutting systems for over 120 years.

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