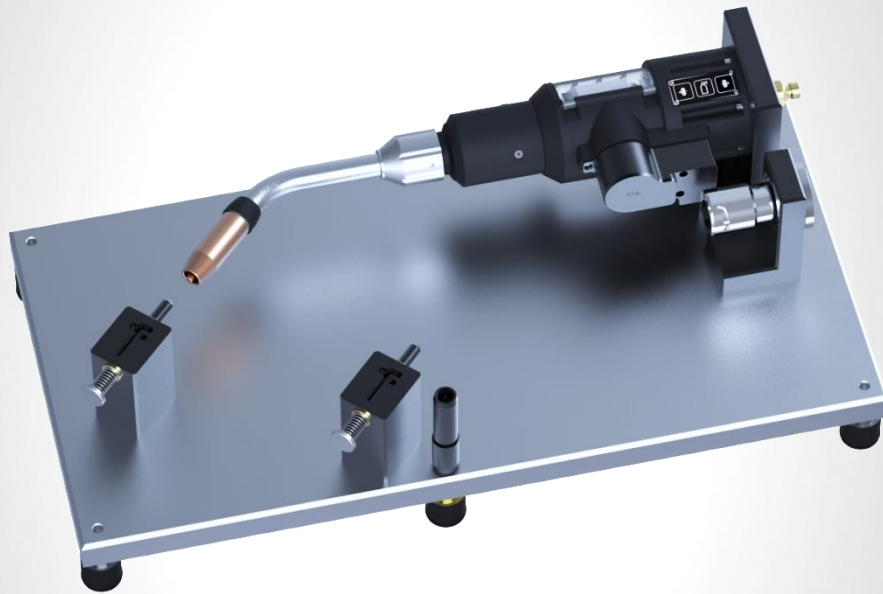




Checking Fixtures

Reproducible quality



Applicable for the following torch systems::

Power Joint | Power Joint Lite | Power Joint Lite S | Water Joint | Water Joint Lite | Frontpull 8i | Frontpull 8i Lite
Power Clutch | Power Clutch water-cooled | Frontpull 7 | Frontpull 8
Wire Select 2.0 | Dual Wire 2.0 | PlasmaTIG

Content

Torch System	Page
The CHecking Fixture as a Tool Programming Tips	3
Power Joint (Lite / Lite S)	4
Water Joint (Lite / Lite S)	5
Power Clutch (water-cooled)	6
Frontpull 8	7
Frontpull 8 (23° Version)	8
Frontpull 8i	9
Frontpull 8i Lite	10
Wire Select 2.0	11
Dual Wire 2.0	12
PlasmaTIG	13

The Checking Fixture as a Tool

With the checking fixture the TCP of a complete torch system (consisting of collision protection, torch body and torch neck) or the torch neck as a single part can be easily verified.

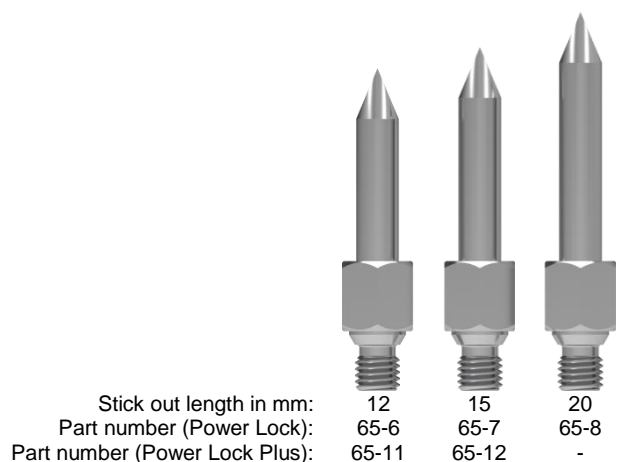
A constant TCP accuracy takes a major role in automated arc welding. To fulfill this criterion even after a torch neck change the TCP can be verified upon a predefined control point.

The possibility of recalibrating the torch neck was not taken into consideration. Slight touches while programming, depending on robot-movement speed, have no influence on dimensional stability of the torch system. After a "heavy" collision it is recommended to verify the whole torch system and change single parts if needed. We do not consider a torch neck as a consumable. Due to the modular system setup and the possibility of using torch necks at different torch systems this creates a variety of different checking fixtures. As an option, checking pins with integrated sliding sleeve for easy TCP-Check, are available.



Programming Tip

The programming tip is a useful tool to program the robot upon a given wire stickout throughout the complete welding seam. It is simply screwed on the retaining-head. With this tool a precise weld-seam-programming is possible. Please order the favored programming tip(s) separately to the checking fixture. The following types and lengths are available.



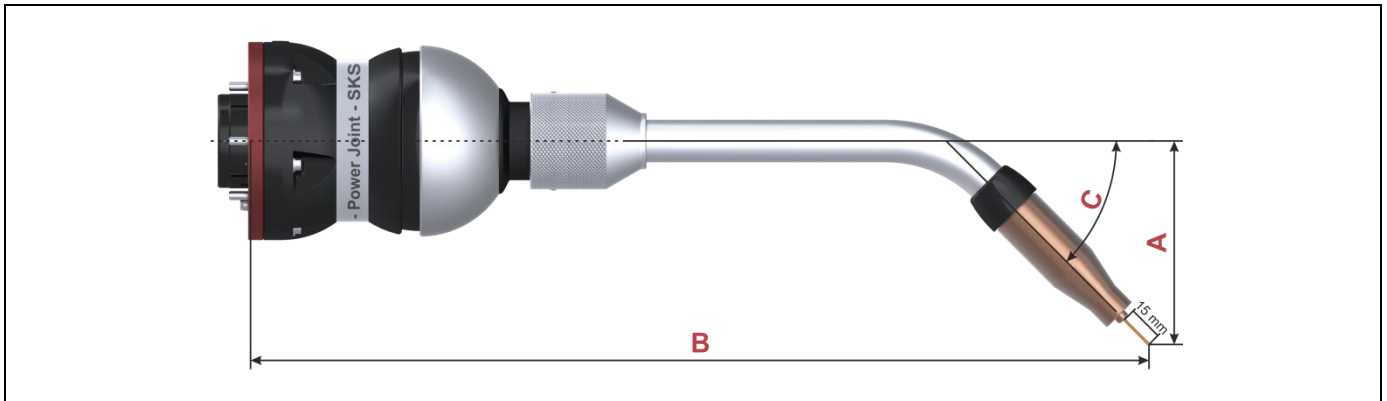
Applicable for all single wire torch systems.



Applicable for Dual Wire 2.0 torch systems.

For PlasmaTIG torch systems no programming tips are needed.

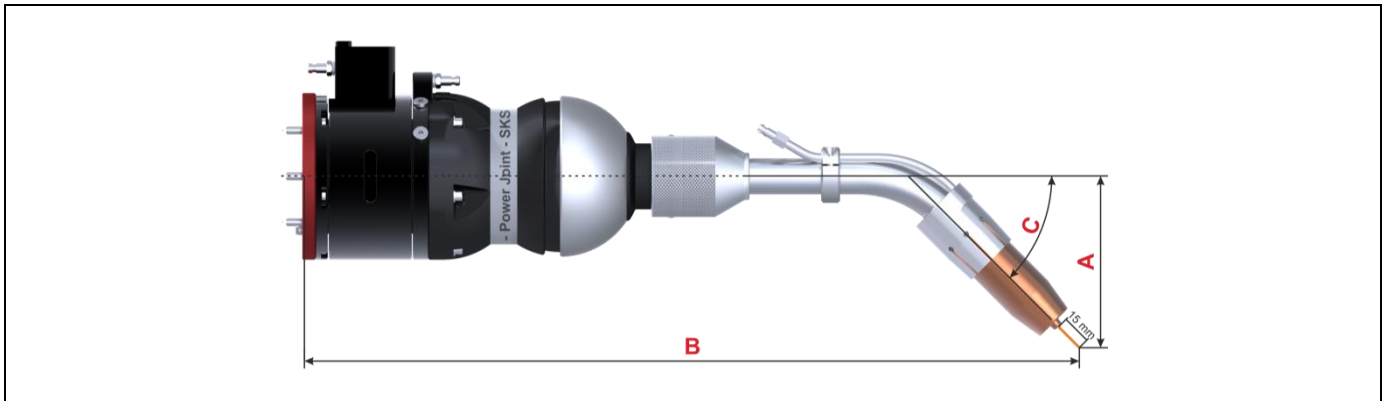
Power Joint (Lite / Lite-S)



Type	Torch Neck		A	B	C	Checking Fixture
Air	Part Number	Shape	Distance in mm	TCP-Length in mm*	Angle in °	Part Number
Standard	58-1-00-400-1	→	0	400.0	0	59-5-1-00-400
	58-1-22-350-1	↘	45	350.0	22	59-5-1-22-350
	58-1-22-400-1	↘	45	400.0	22	59-5-1-22-400
	58-1-22-450-1	↘	45	450.0	22	59-5-1-22-450
	58-1-35-400-1	↘	70	400.0	35	59-5-1-35-400
	58-1-45-350-1	↘	90	350.0	45	59-5-1-45-350
	58-1-45-400-1	↘	90	400.0	45	59-5-1-45-400
	58-1-45-450-1	↘	90	450.0	45	59-5-1-45-450
	58-4-345-400-1	↘	120	338.5	45	59-5-4-345-339
	58-4-345-450-1	↘	120	388.5	45	59-5-4-345-389
	58-4-345-567-1	↘	120	505.5	45	59-5-4-345-506
	58-4-360-450-1	↘	120	388.5	60	59-5-4-360-389
ZK	58-1-245-400-1	↘	62	400.0	45	59-5-1-245-400
	58-1-245-450-1	↘	62	450.0	45	59-5-1-245-450
QK	58-1-145-400-1	↘	44	400.0	45	59-5-1-145-400
HQX	58-1-622-350-1	↘	45	350.0	22	59-5-1-22-350
	58-1-622-400-1	↘	45	400.0	22	59-5-1-22-400
	58-1-635-350-1	↘	70	350.0	35	59-5-1-35-350
	58-1-645-350-1	↘	90	350.0	45	59-5-1-45-350
	58-1-645-400-1	↘	90	400.0	45	59-5-1-45-400
	58-4-6345-450-1	↘	120	388.5	45	59-5-4-345-389
	58-4-6345-567-1	↘	120	505.5	45	59-5-4-345-506

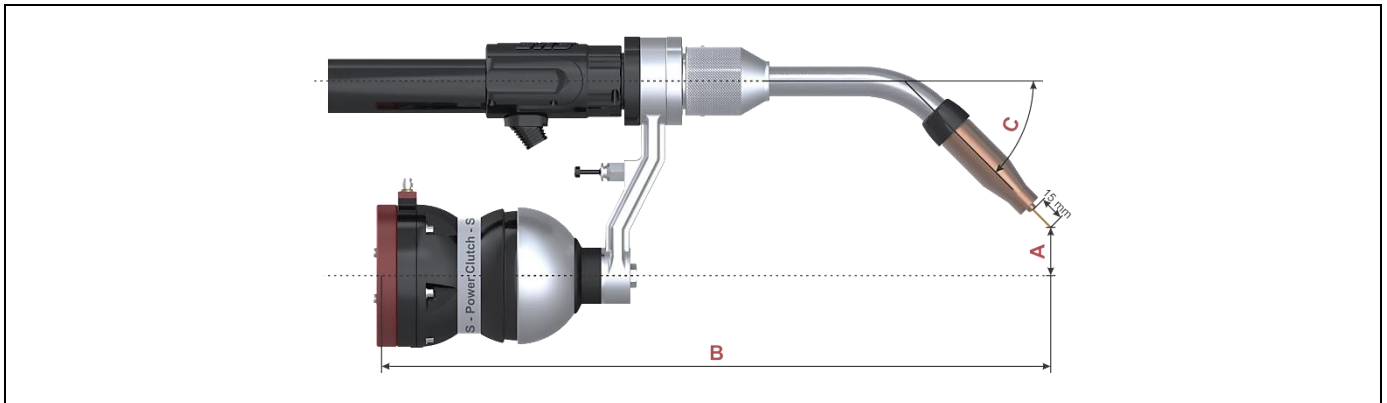
*TCP-Measurements by use of a mounting flange with 6mm material thickness. Depending on robot type the used robot flange may have a material thickness of 56mm.

Water Joint (Lite / Lite-S)



Type	Torch Neck		A	B	C	Checking Fixture
Water	Part Number	Shape	Distance in mm	TCP-Length in mm	Angle in °	Part Number
Standard	58-427-00-500-1		0	498.5	0	59-5-4-00-439
	58-127-22-350-1		45	410.0	22	59-5-1-22-350
	58-127-22-400-1		45	460.0	22	59-5-1-22-400
	58-127-45-350-1		90	410.0	45	59-5-1-45-350
	58-427-345-450-1		120	448.5	45	59-5-4-345-389
HQX	58-127-600-400-1		0	410.0	0	59-5-1-00-400
	58-127-622-350-1		45	410.0	22	59-5-1-22-350
	58-127-622-400-1		45	460.0	22	59-5-1-22-400
	58-127-645-350-1		90	410.0	45	59-5-1-45-350
	58-127-645-400-1		90	460.0	45	59-5-1-45-400
	58-427-6345-450-1		120	448.5	45	59-5-4-345-389
	58-427-6345-567-1		120	565.5	45	59-5-4-345-506
	58-427-7345-450-1		120	448.5	45	59-5-4-345-389
	58-427-7345-567-1		120	565.5	45	59-5-4-345-506

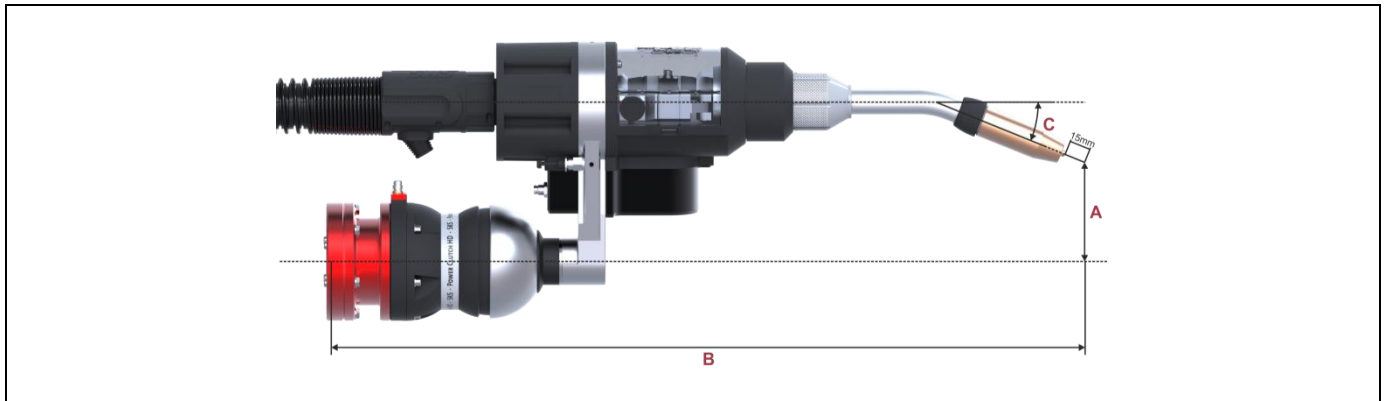
Power Clutch (water-cooled)



Typ	Torch Neck		A	B	C	Checking Fixture
Air	Part Number	Shape	Distance in mm	TCP-Length in mm	Angle in °	Part Number
Standard	58-1-00-400-1		120	461.5	0	59-10-1-00-462
	58-1-22-350-1		75	411.5	22	59-10-1-22-412
	58-1-22-400-1		75	461.5	22	59-10-1-22-462
	58-1-22-450-1		75	511.5	22	59-10-1-22-512
	58-1-35-400-1		50	461.5	35	59-10-1-35-462
	58-1-45-350-1		30	411.5	45	59-10-1-45-412
	58-1-45-400-1		30	461.5	45	59-10-1-45-462
	58-1-45-450-1		30	511.5	45	59-10-1-45-512
	58-4-345-400-1		0	400.0	45	59-10-1-345-400
	58-4-345-450-1		0	450.0	45	59-10-4-345-450
	58-4-345-567-1		0	567.0	45	59-10-4-345-567
	58-4-360-450-1		0	450.0	60	59-10-4-360-450
ZK	58-1-245-400-1		58	461.5	45	59-10-1-245-462
	58-1-245-450-1		58	511.5	45	59-10-1-245-512
QK	58-1-145-400-1		44	461.5	45	59-10-1-145-462
HQX	58-1-622-350-1		45	411.5	22	59-10-1-22-412
	58-1-622-400-1		45	461.5	22	59-10-1-22-462
	58-1-635-350-1		70	461.5	35	59-10-1-35-462
	58-1-645-350-1		90	411.5	45	59-10-1-45-412
	58-1-645-400-1		90	461.5	45	59-10-1-45-462
	58-4-6345-450-1		120	450.0	45	59-10-4-345-450
	58-4-6345-567-1		120	567.0	45	59-10-4-345-567

Water	Part Number	Shape	Distance in mm	TCP-Length in mm	Angle in °	Part Number
Standard	58-427-00-500-1		120	500.0	0	59-10-4-00-500
	58-127-22-350-1		75	411.5	22	59-10-1-22-412
	58-127-22-400-1		75	461.5	22	59-10-1-22-462
	58-127-45-350-1		30	411.5	45	59-10-1-45-412
	58-427-345-450-1		0	450.0	45	59-10-4-345-450
HQX	58-127-600-400-1		120	461.5	0	59-10-1-00-462
	58-127-622-350-1		75	411.5	22	59-10-1-22-412
	58-127-622-400-1		75	461.5	22	59-10-1-22-462
	58-127-645-350-1		30	411.5	45	59-10-1-45-412
	58-127-645-400-1		30	461.5	45	59-10-1-45-462
	58-427-6345-450-1		0	450.0	45	59-10-4-345-450
	58-427-6345-567-1		0	567.0	45	59-10-4-345-567

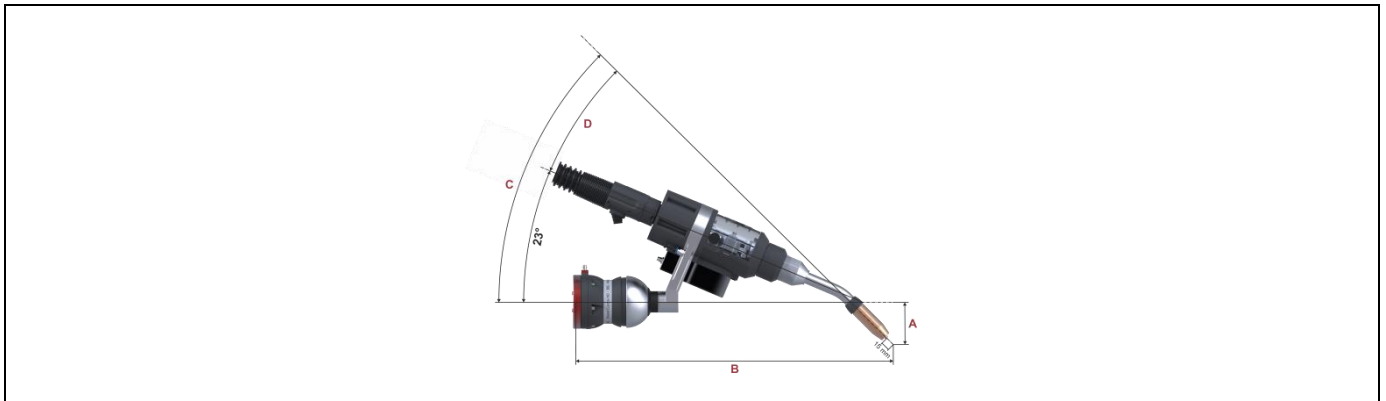
Frontpull 8



Typ	Torch Neck		A	B	C	Checking Fixture
Air	Part Number	Shape	Distance in mm	TCP-Length in mm*	Angle in °	Part Number
Standard	58-1-00-400-1	→	120	611.5	0	59-20-1-00-577
	58-1-22-350-1	→	75	561.5	22	59-20-1-22-527
	58-1-22-400-1	→	75	611.5	22	59-20-1-22-577
	58-1-22-450-1	→	75	661.5	22	59-20-1-22-627
	58-1-35-400-1	→	50	611.5	35	58-20-1-35-577
	58-1-45-350-1	→	30	561.5	45	59-20-1-45-527
	58-1-45-400-1	→	30	611.5	45	59-20-1-45-577
	58-1-45-450-1	→	30	661.5	45	59-20-1-45-627
	58-4-345-400-1	→	30	550.0	45	59-20-4-345-515
	58-4-345-450-1	→	0	600.0	45	59-20-4-345-565
	58-4-345-567-1	→	0	717.0	45	59-20-4-345-682
ZK	58-1-245-400-1	→	58	611.5	45	59-20-1-245-527
	58-1-245-450-1	→	58	661.5	45	59-20-1-245-577
QK	58-1-145-400-1	→	44	611.5	45	59-20-1-145-527
	58-1-622-350-1	→	45	561.5	22	59-20-1-22-527
HQX	58-1-622-400-1	→	45	611.5	22	59-20-1-22-577
	58-1-635-350-1	→	70	561.5	35	59-20-1-35-527
	58-1-645-350-1	→	90	561.5	45	59-20-1-45-527
	58-1-645-400-1	→	90	611.5	45	59-20-1-45-577
	58-4-6345-450-1	→	120	600.0	45	59-20-4-345-565
	58-4-6345-567-1	→	120	717.0	45	59-20-4-345-682

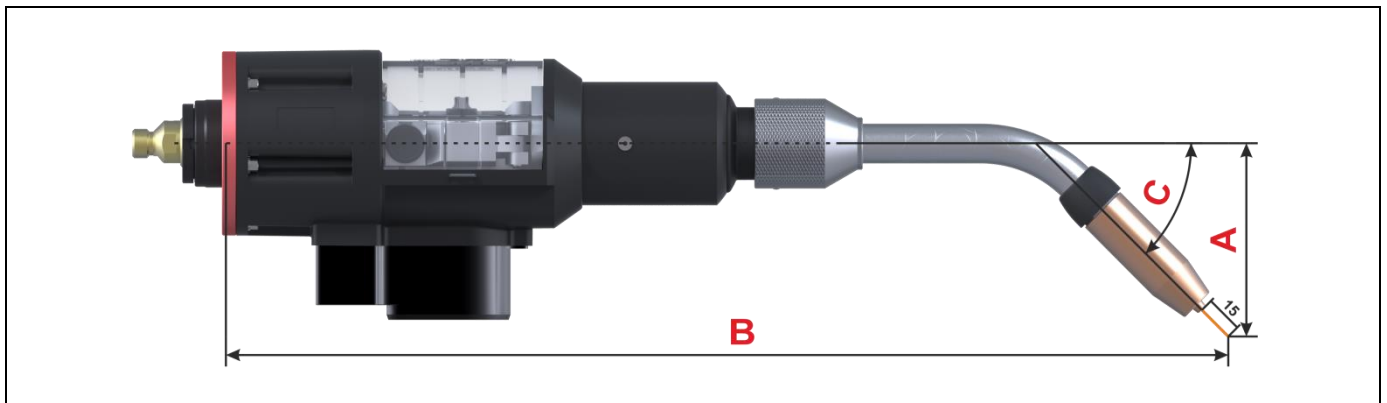
*TCP measurements including TCP-Extension 35mm (Part Number 93-57)

Frontpull 8 (23° Version)



Type	Torch Neck		A	B	D	Checking Fixture	
Air	Part Number	Shape	Distance in mm	TCP Länge in mm	Angle in °	Part Number	
Standard	58-1-00-400-1	→	48.1	583.6	0	59-8-1-00-584	
	58-1-22-350-1	↘	70.0	520.0	22	59-8-1-22-520	
	58-1-22-400-1	↘	89.5	566.0	22	59-8-1-22-566	
	58-1-22-450-1	↘	On request	On request	22	On request	
	58-1-35-400-1	↘	On request	On request	35	On request	
	58-1-45-350-1	↘	On request	On request	45	On request	
	58-1-45-400-1	↘	On request	On request	45	On request	
	58-1-45-450-1	↘	On request	On request	45	On request	
	58-4-345-400-1	↘	On request	On request	45	On request	
	58-4-345-450-1	↘	On request	On request	45	On request	
	58-4-345-567-1	↘	On request	On request	45	On request	
	58-4-360-450-1	↘	On request	On request	60	On request	
	ZK	58-1-245-400-1	↘	On request	On request	45	On request
		58-1-245-450-1	↘	On request	On request	45	On request
QK	58-1-145-400-1	↘	On request	On request	45	On request	
HQX	58-1-622-350-1	↘	70.0	520.0	22	59-8-1-22-520	
	58-1-622-400-1	↘	89.5	566.0	22	59-8-1-22-566	
	58-1-635-350-1	↘	On request	On request	35	On request	
	58-1-645-350-1	↘	On request	On request	45	On request	
	58-1-645-400-1	↘	On request	On request	45	On request	
	58-4-6345-450-1	↘	On request	On request	45	On request	
	58-4-6345-567-1	↘	On request	On request	45	On request	

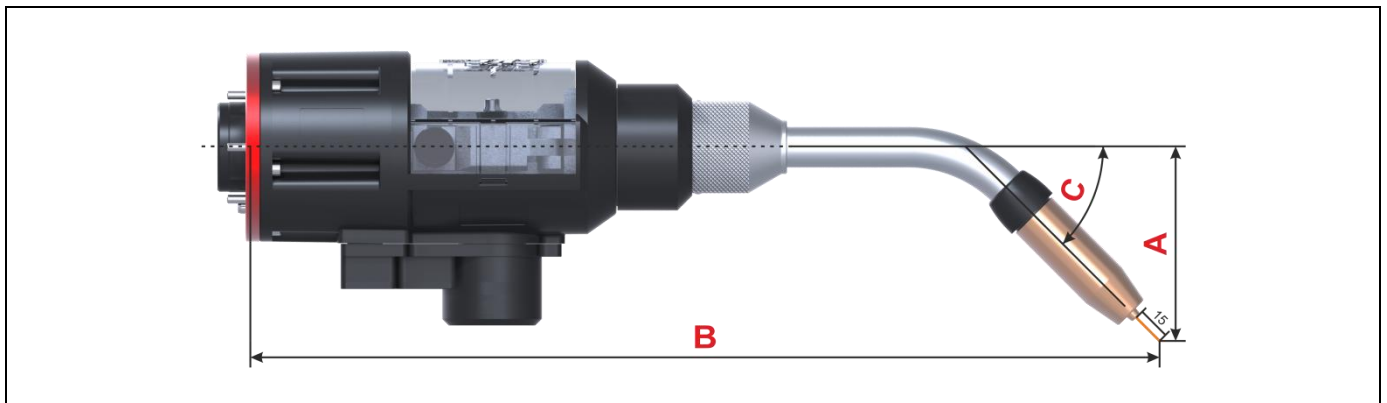
Frontpull 8i



Type	Torch Neck		A	B	C	Checking Fixture
Air	Part Number	Shape	Distance in mm	TCP-Length in mm*	Angle in °	Part Number
Standard	58-1-00-400-1		0	530.0	0	59-19-1-00-530
	58-1-22-350-1		45	480.0	22	59-19-1-22-480
	58-1-22-400-1		45	530.0	22	59-19-1-22-530
	58-1-22-450-1		45	580.0	22	59-19-1-22-580
	58-1-35-400-1		70	530.0	35	59-19-1-35-530
	58-1-45-350-1		90	480.0	45	59-19-1-45-480
	58-1-45-400-1		90	530.0	45	59-19-1-45-530
	58-1-45-450-1		90	580.0	45	59-19-1-45-580
	58-1-345-400-1		90	468.5	45	59-19-1-345-469
	58-4-345-450-1		120	518.5	45	59-19-4-345-519
	58-4-345-567-1		120	635.5	45	59-19-4-345-636
	58-4-360-450-1		120	518.5	45	59-19-4-360-479
ZK	58-1-245-400-1		62	530.0	45	59-19-1-245-530
	58-1-245-450-1		62	580.0	45	59-19-1-245-580
QK	58-1-145-400-1		44	530.0	45	59-19-1-145-530
HQX	58-1-622-350-1		45	480.0	22	59-19-1-22-480
	58-1-622-400-1		45	530.0	22	59-19-1-22-530
	58-1-635-350-1		70	480.0	35	59-19-1-35-480
	58-1-645-350-1		90	480.0	45	59-19-1-45-480
	58-1-645-400-1		90	530.0	45	59-19-1-45-530
	58-4-6345-450-1		120	518.5	45	59-19-4-345-479
	58-4-6345-567-1		120	635.5	45	59-19-4-345-636

*TCP-Measurements by use of a mounting flange with 6mm material thickness. Depending on robot type the used robot flange may have a material thickness of 56mm.

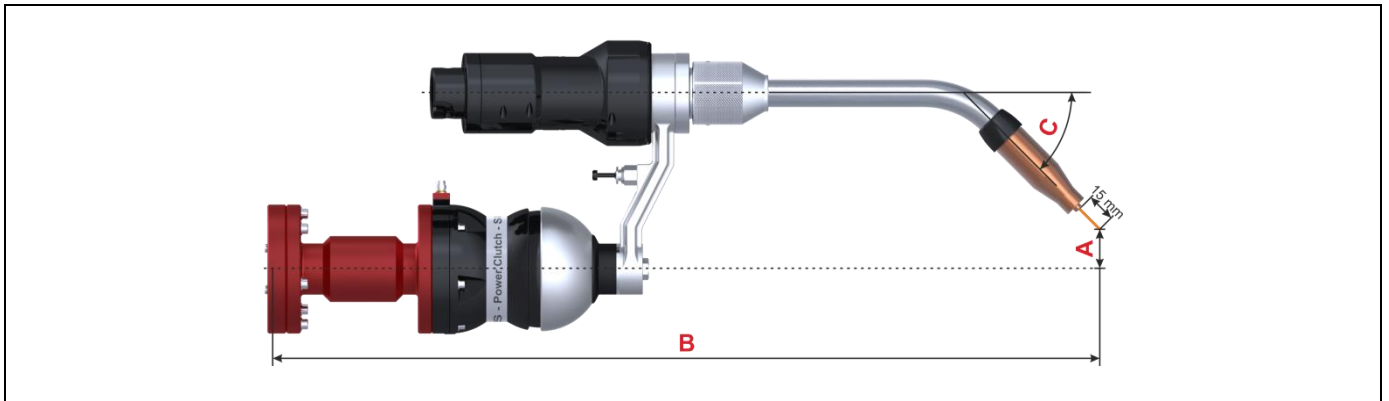
Frontpull 8i Lite



Type	Torch Neck		A	B	C	Checking Fixture
Air	Part Number	Shape	Distance in mm	TCP-Length in mm*	Angle in °	Part Number
Standard	58-1-00-400-1		0	475.0	0	59-17-1-00-475
	58-1-22-350-1		45	425.0	22	59-17-1-22-425
	58-1-22-400-1		45	475.0	22	59-17-1-22-475
	58-1-22-450-1		45	525.0	22	59-17-1-22-525
	58-1-35-400-1		70	475.0	35	59-17-1-35-475
	58-1-45-350-1		90	425.0	45	59-17-1-45-425
	58-1-45-400-1		90	475.0	45	59-17-1-45-475
	58-1-45-450-1		90	525.0	45	59-17-1-45-525
	58-4-345-400-1		90	413.5	45	59-17-4-345-414
	58-4-345-450-1		120	463.5	45	59-17-4-345-464
	58-4-345-567-1		120	580.5	45	59-17-4-345-581
	58-4-360-450-1		120	423.5	45	59-17-4-360-424
ZK	58-1-245-400-1		62	475.0	45	59-17-1-245-475
	58-1-245-450-1		62	525.0	45	59-17-1-245-525
QK	58-1-145-400-1		44	475.0	45	59-17-1-145-475
HQX	58-1-622-350-1		45	425.0	22	59-17-1-22-425
	58-1-622-400-1		45	475.0	22	59-17-1-22-475
	58-1-635-350-1		70	425.0	35	59-17-1-35-425
	58-1-645-350-1		90	425.0	45	59-17-1-45-425
	58-1-645-400-1		90	475.0	45	59-17-1-45-475
	58-4-6345-450-1		120	463.5	45	59-17-4-345-424
	58-4-6345-567-1		120	580.5	45	59-17-4-345-581

*TCP-Measurements by use of a mounting flange with 6mm material thickness. Depending on robot type the used robot flange may have a material thickness of 56mm.

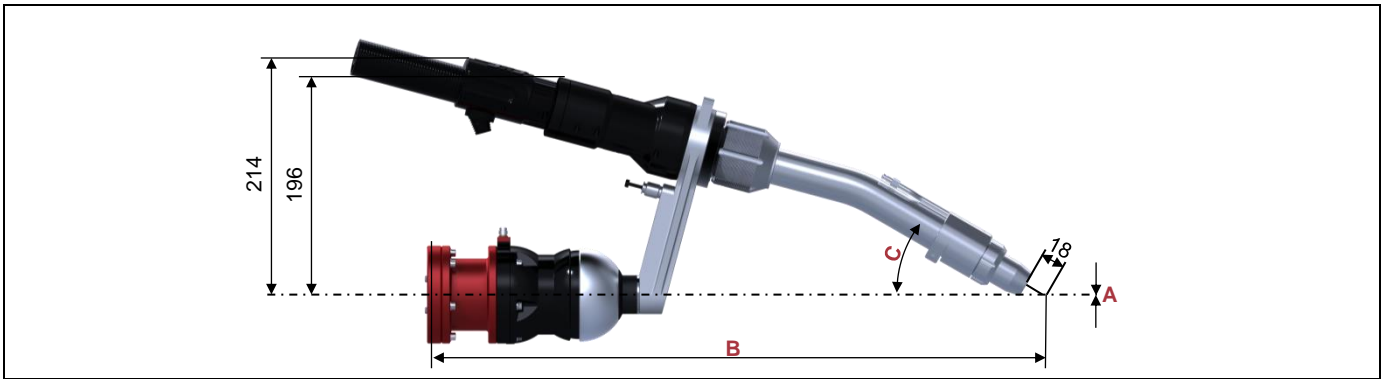
Wire Select 2.0



Type	Torch Neck		A	B	C	Checking Fixture
Air	Part Number	Shape	Distance in mm	TCP-Length in mm*	Angle in °	Part Number
Standard	58-1-00-400-1	→	120	561.5	0	59-10-1-00-462
	58-1-22-350-1	↘	75	511.5	22	59-10-1-22-412
	58-1-22-400-1	↘	75	561.5	22	59-10-1-22-462
	58-1-22-450-1	↘	75	611.5	22	59-10-1-22-512
	58-1-35-400-1	↘	50	561.5	35	59-10-1-35-462
	58-1-45-350-1	↘	30	511.5	45	59-10-1-45-412
	58-1-45-400-1	↘	30	561.5	45	59-10-1-45-462
	58-1-45-450-1	↘	30	611.5	45	59-10-1-45-512
	58-4-345-400-1	↘	0	500.0	45	59-10-4-345-400
	58-4-345-450-1	↘	0	550.0	45	59-10-4-345-450
	58-4-345-567-1	↘	0	667.0	45	59-10-4-345-567
	58-4-360-450-1	↘	0	550.0	60	59-10-4-360-450
ZK	58-1-245-400-1	↘	58	561.5	45	59-10-1-245-462
	58-1-245-450-1	↘	58	611.5	45	59-10-1-245-512
QK	58-1-145-400-1	↘	44	561.5	45	59-10-1-145-462
HQX	58-1-622-350-1	↘	45	511.5	22	59-10-1-22-412
	58-1-622-400-1	↘	45	561.5	22	59-10-1-22-462
	58-1-635-350-1	↘	70	561.5	35	59-10-1-35-462
	58-1-645-350-1	↘	90	511.5	45	59-10-1-45-412
	58-1-645-400-1	↘	90	561.5	45	59-10-1-45-462
	58-4-6345-450-1	↘	120	550.0	45	59-10-4-345-450
	58-4-6345-567-1	↘	120	667.0	45	59-10-4-345-567

*TCP measurements including TCP-Extension 100mm (Part Number 93-14)

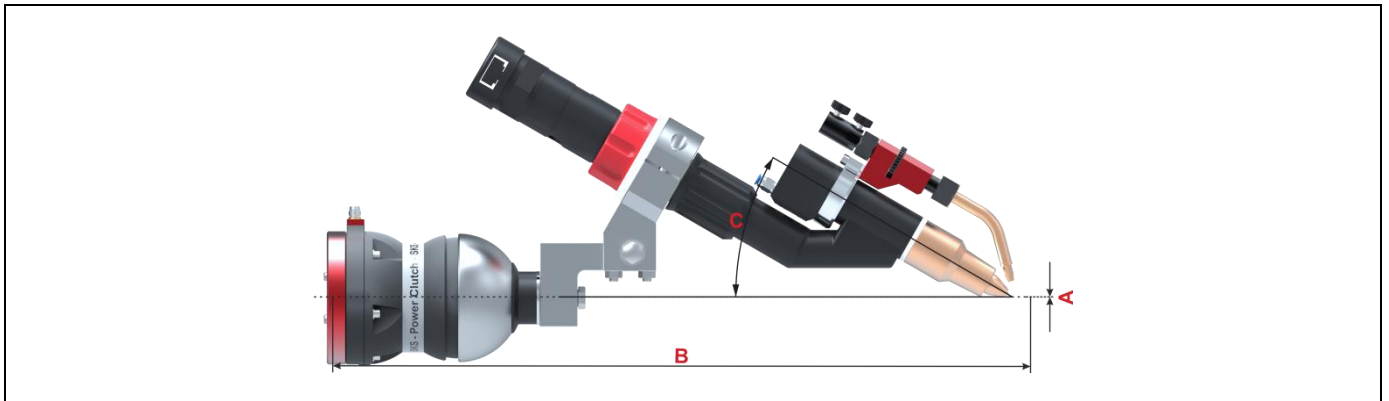
Dual Wire 2.0



Type	Torch Neck		A	B	C	Checking Fixture
Water	Part Number	Shape	Distance in mm	TCP-Length in mm*	Angle in °	Part Number
DW2.0	54-5-3-15-550-1-1		0	550	30	59-13-30-550

*TCP measurements including TCP-Extension 50mm (Part Number 93-29)

PlasmaTIG



Typ	Brennerkörper		A	B	C	Checking Fixture
Water	Part Number	Shape	Distance in mm	TCP-Length in mm	Angle in °	Part Number
TIG kurz	57-2-224	→	1.5	450	30	59-9-30-450
TIG kurz	57-2-232	→	1.5	450	30	59-9-30-450
TIG kurz	57-2-240	→	1.5	450	30	59-9-30-450
Plasma kurz	57-2-324	→	1.5	450	30	59-9-30-450
Plasma kurz	57-2-332	→	1.5	450	30	59-9-30-450
Plasma kurz	57-2-340	→	1.5	450	30	59-9-30-450
TIG lang	57-2-424	→	1.5	450	30	59-9-30-450
TIG lang	57-2-432	→	1.5	450	30	59-9-30-450
TIG lang	57-2-440	→	1.5	450	30	59-9-30-450
TIG lang (LS)	57-2-632	→	1.5	450	30	59-5-30-450

Notes

Notes

