

有限会社ケイテック
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1000 Bar 対応
A P スタンダード ノズル



1000 bar

AP Standard Nozzles

The economical stainless steel AP Standard style nozzles come in pressure ratings to match your flex or rigid lances.

The 15K-AP features FNPT threads to go with lances with MNPT threads, a slimline design that makes it easy to move through almost any size of tubing, and a wide range of options for precision drilled orifices.

Please specify drilling pattern, pressure and flow when ordering.

経済的なステンレススチール製のA Pスタンダードスタイルのノズルです。フレキ・ランスのいずれにもマッチする圧力に設計されています。

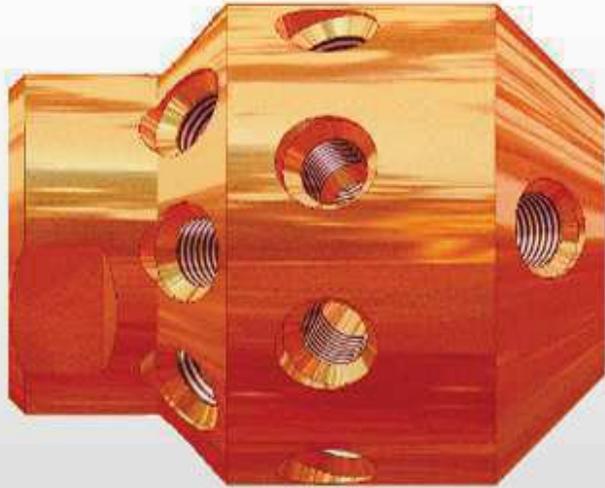
この15K AP はNPTM（オス）の接続面をもつランスに見合うようNPTF（メス）の接続面（スレッド）をもっています。スリムなデザインはほとんどどのようなサイズのチューブの中を動き回れるようになっています。

また精密に穴を開けられたオリフィスは幅広い種類が用意されています。

ご注文の際は水圧・水量・ドリルのパターンを明らかにしてください。

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700 Bar 対応
APLM パイナップル ラインモール ノズル



700 bar

APLM Pineapple Line Mole nozzles

The APLM pineapple-type line mole nozzles are made from stainless steel with a special copper coating to prevent galling during installation. APLM nozzles have 1" NPT inlets with 1/4" NPT (F) ports, and a choice of port locations. These are used with line mole inserts listed on the round jet (steel or TC) chapter on this web (Line Mole nozzle inserts).

Wrench flats allow for easy installation.

You can also use Tungsten Carbide nozzles (see site under [roundjet - tungsten carbide "TC line mole inserts"](#)).

APLMパイナップルタイプ ライン モール ノズルはノズル装着時の”がじり”をふせぐための銅コーティングをほどこしたステンレススチール製のノズルです。

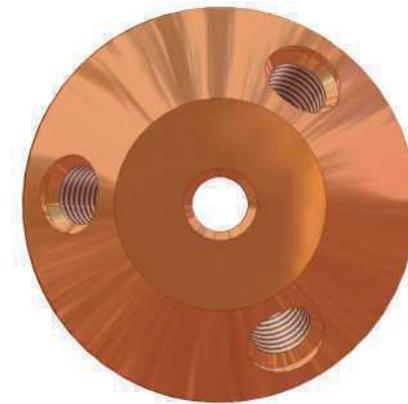
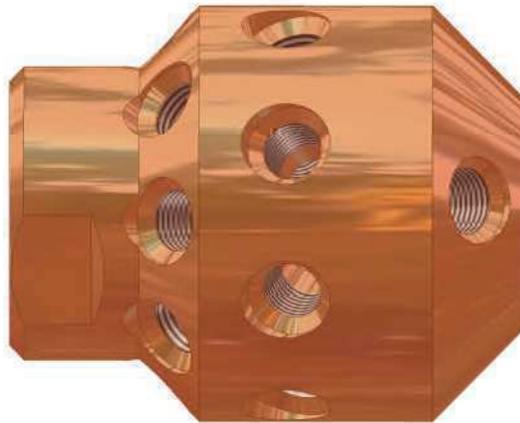
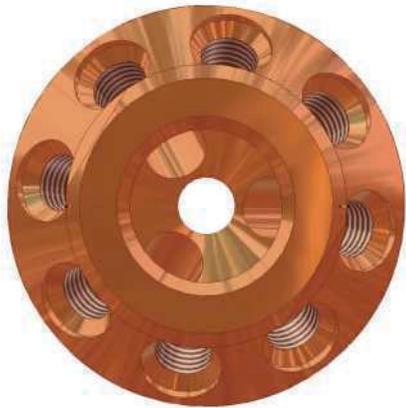
APLMノズルは1”NPT接続の挿入口と1/4”NPT F

(メス) 接続の各噴射口があり、噴射口的位置を選択できるようになっています。

ここにはウェブサイトの直射ノズル（スチールかタングステンカーバイト）ファイルリストに記載されているラインモールインサートを装着して使用します。レンチフラットで取り付けは簡単です。

APLM パイプクリーニング ノズル 700 Bar

APLM Pipe Cleaning Nozzles 700 Bar (10K)
 APLM Rohrreinigung Düsen 700 Bar
 APLM Pijpreiniging Nozzles 700 Bar



Part Number Teile Nummer Artikelnummer	Type Form Type	Dimensions $\varnothing \times L$ mm Abmessungen $\varnothing \times L$ mm Afmetingen $\varnothing \times L$ mm	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Configuration Konfiguration Configuratie
15-018-200	Standard	95,3 x 76,2	1"NPT	1@A+3@B(45°)+8@C(15°)+8@D(45°)
15-018-201	Radial			1@A+3@B(45°)+8@C(90°)+8@D(45°)

パーツNO

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ノズル配置

1000 Bar
BPLM パイナップル ラインモール ノズル

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1000 bar

BPLM Pineapple Line Mole nozzles

The BPLM pineapple-type line mole nozzles are made from stainless steel with a special copper coating to prevent galling during installation. APLM nozzles have 1" NPT inlets with 1/4" NPT (F) ports, and a choice of port locations. These are used with line mole inserts listed on the round jet (steel / TC) chapter on this web (LM nozzle inserts). Wrench flats allow for easy installation.

You can also use Tungsten Carbide nozzles (see site under roundjet - tungsten carbide "TC line mole insets").

BPLMパイナップルタイプ ライン モール ノズルはノズル装着時の"がじり"をふせぐための銅コーティングをほどこしたステンレススチール製のノズルです。

BPLMノズルは1" NPT接続の挿入口と1/4" NPT F

(メス)接続の各噴射口があり、噴射口的位置を選択できるようになっています。

ここにはウェブサイトの直射ノズル(スチールかタングステンカーバイト)ファイルリストに記載されているラインモールインサートを装着して使用します。レンチフラットで取り付けは簡単です。

B P L M パイプ クリーニング ノズル 1 0 0 0 B a r

BPLM Pipe Cleaning Nozzles 1000 Bar (15K)
BPLM Rohrreinigung Düsen 1000 Bar
BPLM Pijpreiniging Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Type Form Type	Dimensions $\phi \times L$ mm Abmessungen $\phi \times L$ mm Afmetingen $\phi \times L$ mm	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Configuration Konfiguration Configuratie
15-018-202	Standard	57,2 x 88,9	1/2"NPT	1@A+3@B(45°)+6@C(15°)+6@D(45°)
15-018-203	Radial			1@A+3@B(45°)+6@C(90°)+6@D(45°)
15-018-204	Standard		3/4"NPT	1@A+3@B(45°)+6@C(15°)+6@D(45°)
15-018-205	Radial			1@A+3@B(45°)+6@C(90°)+6@D(45°)

パーツNO

タイプ

寸法

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ノズル配置

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1000 Bar

ボタン チップ フレックス ランス ノズル 1000 Bar (15K)



1000 bar

Button Tip Flex Lance Nozzles 1000 bar (15K)

The Button-Tip compact stainless steel nozzles come in pressure ratings to match your flex lances.

They are ideal for cleaning small diameter tubes with small radius bends.

The 15K-BT features FNPT - BSPP and Metric threads to go with lances with MNPT- MBSPP - Metric threads. All offer many options for precision drilled orifices. Please specify drilling pattern, pressure and flow when ordering.

コンパクトなステンレススチール製ボタンチップは使用するフレキにマッチした耐圧の幅を持っています。このノズルは小さな口径のチューブで小さな角度の曲がった部分のあるチューブの洗浄に最適です。

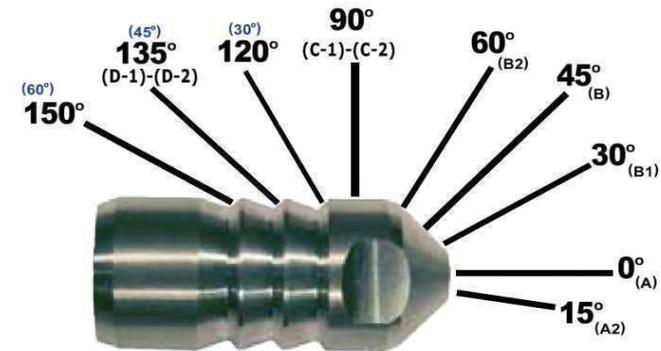
15K ボタンチップはNTPF (メス) BSPP およびMネジの接続面が用意されていてNTPM (オス) - BSPP (オス) およびMネジ (オス) 接続面をもつランスに取り付けて使用できます。

作業対象により何種類もの精密にドリルされたオリフィスが用意されています。

ご注文の際には水圧・水量・ドリルのパターンを設定してください。

BT ボタンチップ ノズル 1000 Bar

BT Button Tip Nozzles 1000 Bar (15K)
 BT Knopf Düsen 1000 Bar
 BT Knoop Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Dimensions $\phi \times L$ mm Abmessungen $\phi \times L$ mm Afmetingen $\phi \times L$ mm	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Drilling Bohrungen Boringen
15-004-001	9,53 x 22,23	1/16"NPT	At Choice Ihre Wahl Naar Keuze
15-004-011	11,91 x 14,98	1/8"NPT	
15-504-011	11,91 x 20,00	1/8"BSP	
15-508-011		M10x1	
15-004-021	15,88 x 20,96	1/4"NPT	
15-504-021	15,88 x 25,40	1/4"BSP	
15-004-031	22,23 x 25,40	3/8"NPT	
15-504-031	22,23 x 30,00	3/8"BSP	
15-004-041	25,40 x 28,58	1/2"NPT	
15-504-041	28,58 x 40,00	1/2"BSP	

パーツNO

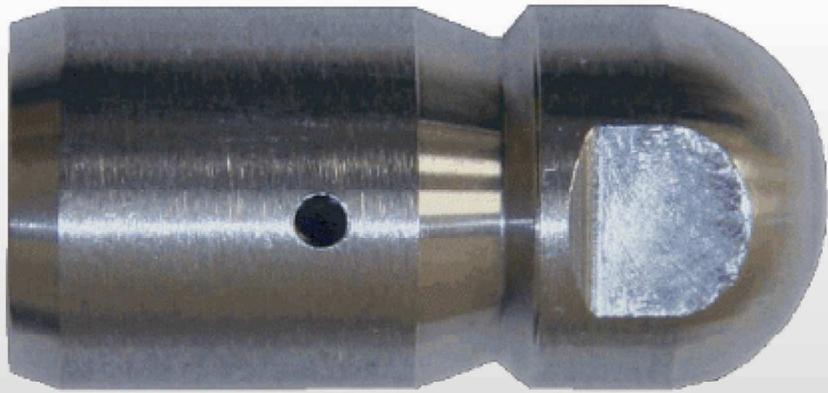
寸法

接続

ドリリング

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1400 Bar
ボタンチップ ノズル 1400 Bar (20K)



1400 bar

Button Tip Nozzles 1400 bar (20K)

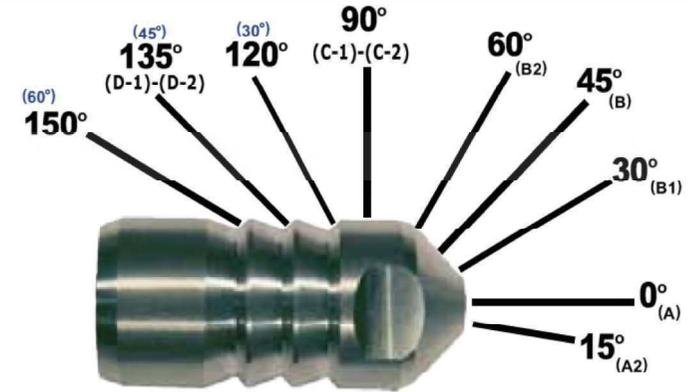
The Button-Tip compact stainless steel nozzles are ideal for cleaning small diameter tubes with small radius bends. The 20K-BT have Autoclave-type MP threads, and offer many options for precision drilled orifices.

[Documentation](#)

コンパクトなステンレススチール製ボタンチップは使用するフレキにマッチした耐圧の幅を持っています。このノズルは小さな口径のチューブで小さな角度の曲がった部分のあるチューブの洗浄に最適です。この20KボタンチップはオートクレーブタイプのMP接続です。何種類か精密なオリフィスドリリングが可能です。

ボタンチップノズル 1400 Bar

Button Tip Nozzles 1400 Bar (20K)
 Knopf Düsen 1400 Bar
 Knoop Nozzles 1400 Bar



Part Number Teile Nummer Artikelnummer	Dimensions $\varnothing \times L$ mm Abmessungen $\varnothing \times L$ mm Afmetingen $\varnothing \times L$ mm	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Drilling Bohrungen Boringen
16-007-001	9,52 x 22,23	1/4"-28 MPL <u>H</u>	At Choice Ihre Wahl Naar Keuze
16-008-001	11,89 x 25,40	3/8"-24 MPL <u>H</u>	
16-009-001	17,45 x 28,57	9/16"-18 MPL <u>H</u>	
16-007-101	9,52 x 22,23	1/4"-28 MPR <u>H</u>	
16-008-101	11,89 x 25,40	3/8"-24 MPR <u>H</u>	
16-009-101	17,45 x 28,57	9/16"-18 MPR <u>H</u>	

パーツNO

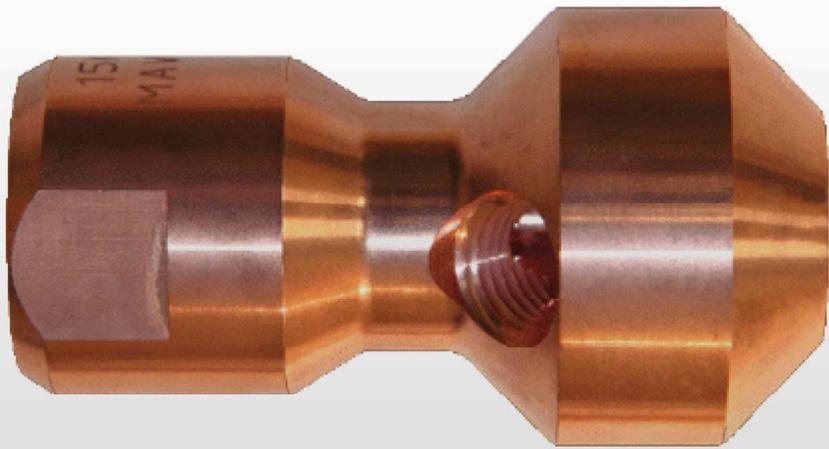
寸法

接続

ドリリング

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1000 Bar 対応
CPLM パイナップル ライン モール ノズル



1000 bar

CPLM Pineapple Line Mole nozzles

The CPLM pineapple-type line mole nozzles are made from stainless steel with a special copper coating to prevent galling during installation. CPLM nozzles have 1/2" NPT inlets with 1/4" NPT (F) ports, and a choice of port locations. These are used with line mole inserts listed on the round jet section at the steel ore TC page. Wrench flats allow for easy installation.

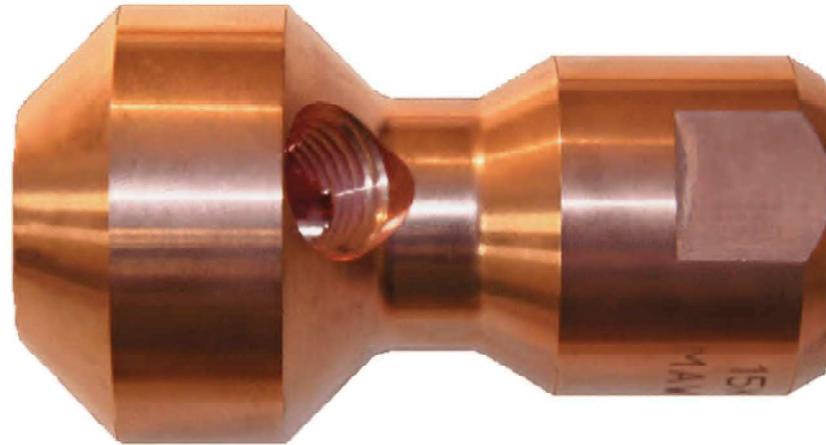
CPLMパイナップルタイプ ライン モール ノズルはノズル装着時の”がじり”をふせぐための銅コーティングをほどこしたステンレススチール製のノズルです。

CPLMノズルは1/2”NPT接続の挿入口と1/4”NPT F（メス）接続の各噴射口があり、噴射口の位置を選択できるようになっています。

ここにはウェブサイトの直射ノズル（スチールかタンダステンカーバイト）ファイルリストに記載されているラインモールインサートを装着して使用します。レンチフラットで取り付けは簡単です。

C P L M パイプ クリーニング ノズル 1000 Bar

CPLM Pipe Cleaning Nozzles 1000 Bar (15K)
CPLM Rohrreinigung Düsen 1000 Bar
CPLM Pijpreiniging Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Type Form Type	Dimensions $\varnothing \times L$ mm Abmessungen $\varnothing \times L$ mm Afmetingen $\varnothing \times L$ mm	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Configuration Konfiguration Configuratie
15-018-206	Standard	41,3 x 63,5	1/2"NPT	1@A+3@B(45°)

パーツNO

タイプ

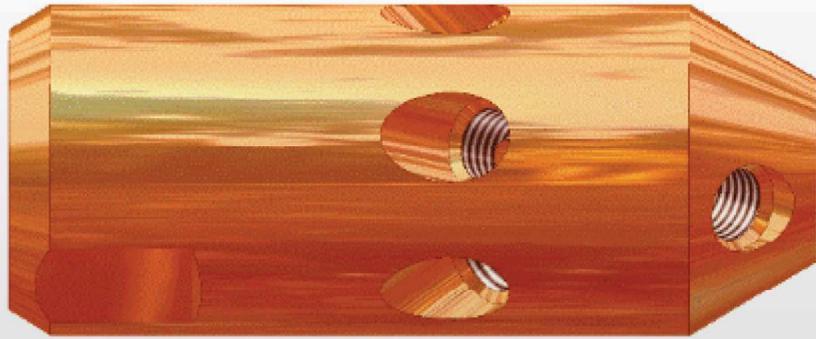
寸法

接続

ノズル配置

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1000 Bar 対応
DPLM パイナップル ライン モール ノズル



1000 bar

DPLM Pineapple Line Mole nozzles

The CPLM pineapple-type line mole nozzles are made from stainless steel with a special copper coating to prevent galling during installation. CPLM nozzles have 3/4" NPT inlets with 1/8" NPT (F) ports, and a choice of port locations. These are used with line mole inserts listed on the round jet nozzles steel LM nozzles.

Wrench flats allow for easy installation.

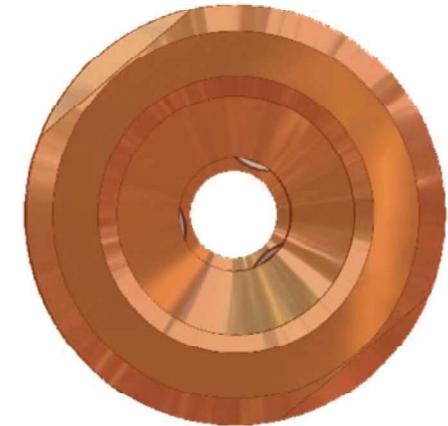
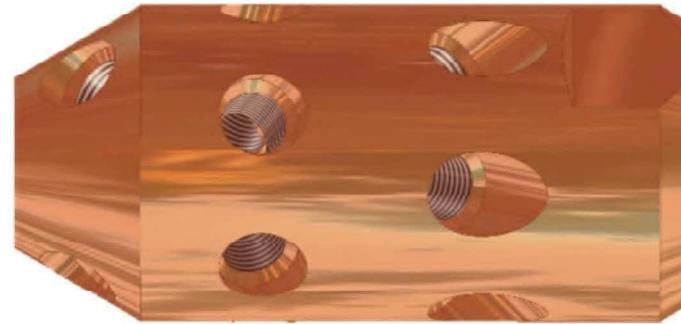
BPLMパイナップルタイプ ライン モール ノズルはノズル装着時の”がじり”をふせぐための銅コーティングをほどこしたステンレススチール製のノズルです。

CPLMノズルは3/4" NPT接続の挿入口と1/8" NPT F (メス) 接続の各噴射口があり、噴射口の位置を選択できるようになっています。

ここにはウェブサイトの直射ノズル (スチールかタングステンカーバイト) ファイルリストに記載されているラインモールインサートを装着して使用します。レンチフラットで取り付けは簡単です。

D P L Mパイプクリーニング ノズル 1000 Bar

DPLM Pipe Cleaning Nozzles 1000 Bar (15K)
 DPLM Rohrreinigung Düsen 1000 Bar
 DPLM Pijpreiniging Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Type Form Type	Dimensions $\varnothing \times L$ mm/inch Abmessungen $\varnothing \times L$ mm/inch Afmetingen $\varnothing \times L$ mm/inch	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Configuration Konfiguration Configuratie
15-018-207	Standard	41,3 x 95,3	$\frac{3}{4}$ "NPT	1@A+3@B(45°)+6@C (15°)+6@D(45°)

パーツNO

タイプ

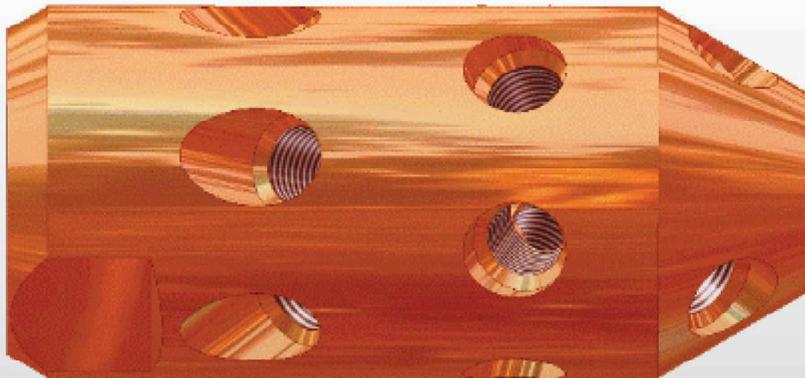
寸法

接続

ノズル配置

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1 0 0 0 B a r
E P L M パイナップル ライン モール ノズル



1000 bar

EPLM Pineapple Line Mole nozzles

The EPLM pineapple-type line mole nozzles are made from stainless steel with a special copper coating to prevent galling during installation. EPLM nozzles have 1/2" NPT inlets with 1/16" NPT (F) ports, and a choice of port locations.

Wrench flats allow for easy installation.

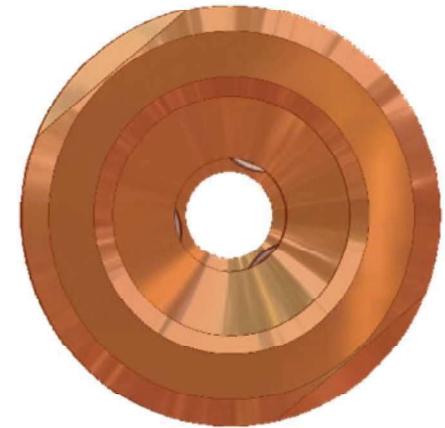
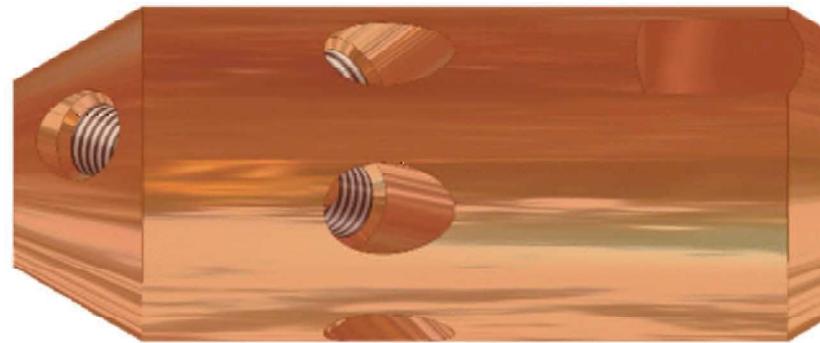
E P L Mパイナップルタイプ ライン モール ノズルはノズル装着時の”がじり”をふせぐための銅コーティングをほどこしたステンレススチール製のノズルです。

E P L Mノズルは1 / 2”N P T接続の挿入口と1 / 1 6”N P T F（メス）接続の各噴射口があり、噴射口の位置を選択できるようになっています。

ここにはウェブサイトの直射ノズル（スチールかタングステンカーバイト）ファイルリストに記載されているラインモールインサートを装着して使用します。レンチフラットで取り付けは簡単です。

E P L M パイプクリーニング ノズル 1000 Bar

EPLM Pipe Cleaning Nozzles 1000 Bar (15K)
 EPLM Rohrreinigung Düsen 1000 Bar
 EPLM Pijpreiniging Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Type Form Type	Dimensions $\varnothing \times L$ mm Abmessungen $\varnothing \times L$ mm Afmetingen $\varnothing \times L$ mm	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Configuration Konfiguration Configuratie
15-018-208	Standard	28,6 x 69,9	1/2"NPT	1@A+3@B(45°)+6@D(45°)

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1000 Bar
エバポレーター ノズル



1000 bar

Evaporator Nozzles

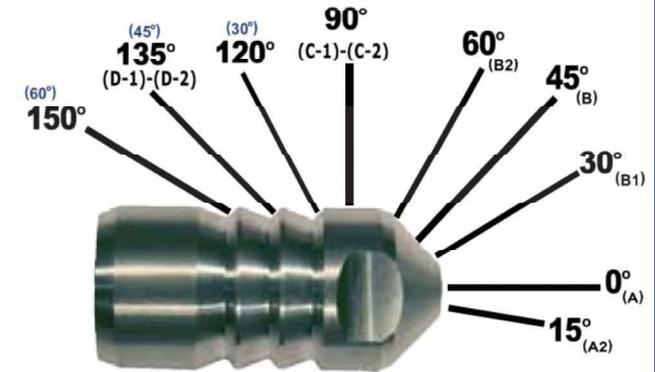
The Evaporator stainless steel nozzles are used with rigid or flex lances with MNPT threads. The design permits a range of forward and side drilling patterns while the backwards facing ridge allows a large number of pulling orifices to more efficiently clean fouled tubing. Wrench flats allow for easy installation.

エバポレーターノズルはNPTM（オス）接続のランスもしくはフレキに取り付けて使用するステンレススチール製のノズルです。

このノズルのデザインは、汚れたチューブをより効果的に洗浄するための推進ノズルを数多くとりつけることができるとともにフロント部、サイド部にも幅広くオリフィスを装備することを可能にしました。レンチフラットで取り付けが簡単です。

EVNPT エバポレーター ノズル 1000 Bar

EVNPT Evaporator Nozzles 1000 Bar (15K)
EVNPT Verdampfer Düsen 1000 Bar
EVNPT Verdamer Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Dimensions $\varnothing \times L$ mm Abmessungen $\varnothing \times L$ mm Afmetingen $\varnothing \times L$ mm	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Drilling Bohrungen Boringen
15-006-001	9,53 x 34,11	1/16"NPT	At Choice Ihre Wahl Naar Keuze
15-006-011	11,91 x 36,50	1/8"NPT	
15-006-021	15,88 x 42,85	1/4"NPT	
15-006-031	22,23 x 46,02	3/8"NPT	
15-006-041	25,40 x 52,32	1/2"NPT	

パーツNo

寸法

接続

ドリリング



1000 bar

FMS Nozzles

The stainless steel "Female Machine Screw" (FMS) nozzles come in pressure ratings to match your DN3 flex lance with M5x0,8 female machine screw thread.

The compact 15K-FMS has a special slimline design that assures that the outside diameter matches the OD of the lance coupler, and comes with wrench flats for easy installation.

Offers many options for 1 or 2 rows of precision drilled orifices.
Please specify drilling pattern, pressure and flow when ordering.

Mostly use (low flow access) 3@45° puling / 1@0° front

Dimensions: \varnothing 7,9 x 24,5 mm. (5/16"OD x 0,965" L)

Part Number: 15-360-001

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1000 bar

FNPT Nozzles

The FNPT nozzles are to be used in rotary applications for the removal of hardened plugs in heat exchanger tubes. This 15K nozzle FNPT threads to go with lances with MNPT threads, a slimline design that makes it easy to move through almost any size of tubing.

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1000 Bar

LTC nozzles

LTC nozzles in different sizes - connections to use on flex lance machines.
Perfect cleaning quality, nozzles are all tangential drilled (out of center)
and a little pulling to flush the dirt out of the tube.

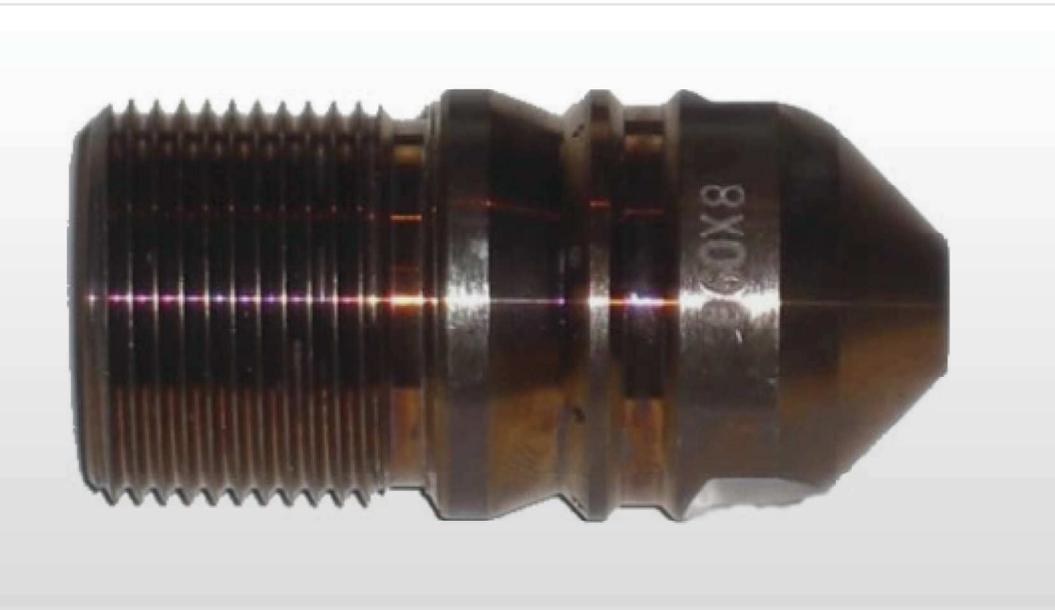
Please check out attached PDF file for more details.

LTC nozzles 1000 bar
 LTC Düsen 1000 bar
 LTC nozzles 1000 bar



Part No. Teile nr. Art. nr	Dimensions mm. Abmessung mm. Afmeting mm.	Connection (F) Gewinde (IG) Aansluiting (bi.)	Nozzle Pattern Düse Patron Nozzle patroon	Nozzle diameter mm. Düse durchmesser mm. Nozzle diameter mm.
15-350-001	Ø 10 x 25	M7x1	1@front/4@80°/4@75°	9x Ø 0,60
15-350-004	Ø 9,5 x 20	1/16"NPT		
15-350-002	Ø 12 x 30	1/8"BSP		
15-350-005	Ø 11,8 x 25	1/8"NPT		
15-350-003	Ø 16 x 35	1/4"BSP		
15-350-006	Ø 16 x 30	1/4"NPT		
				1x Ø 0,50 / 8 x Ø 0,60

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1000 bar

MMS Nozzles

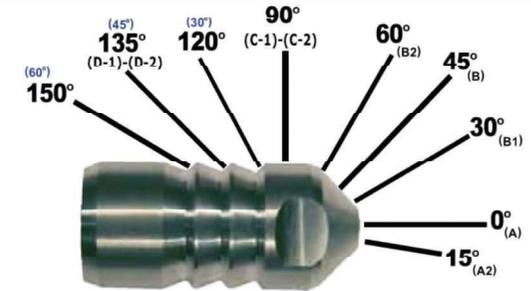
The stainless steel Male Machine Screw (MMS) nozzles come in pressure ratings to match your flex or rigid lances with female machine screw threads (UNF - UNC) and swivelnut hose threads BSP - M24x1,5.

The compact 15K-MMS has a special slimline design that assures that the outside diameter matches the OD of the lance, and have wrench flats for easy installation. All offer many options for 3 or 4 rows of precision drilled orifices.

Please specify drilling pattern, pressure and flow when ordering.

On attached PDF file you find more technical details and also for the IBC lance machine we put an extra picture for you to see the nozzle pattern very clear.

MMS Nozzles 1000 Bar (15K)
MMS Düsen 1000 Bar
MMS Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Dimensions $\varnothing \times L$ (mm) Abmessungen $\varnothing \times L$ (mm) Afmetingen $\varnothing \times L$ (mm)	Connection (M) Anschlußgewinde (AG) Aansluiting (BU)	Drilling Bohrungen Boringen
15-008-001	6,35 x 26,97	12-28UNF	At Choice Ihre Wahl Naar Keuze
15-008-002	7,92 x 31,75	1/4"-28UNF	
15-208-003	9,50 x 37,00	M7x1	
15-008-003	10,32 x 36,50	5/16"-24UNF	
15-108-003			
15-008-005	14,27 x 44,45	3/8"-16UNC	
15-008-006	17,45 x 47,63	1/2"-20UNF	
15-008-107	17,00 x 39,00	M14x1,5	
15-008-106	22,20 x 50,80	1/2"BSP	
15-008-008		M22x1,5	
15-008-007		M24x1,5	

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1400 bar

MMS Nozzles 1400 bar

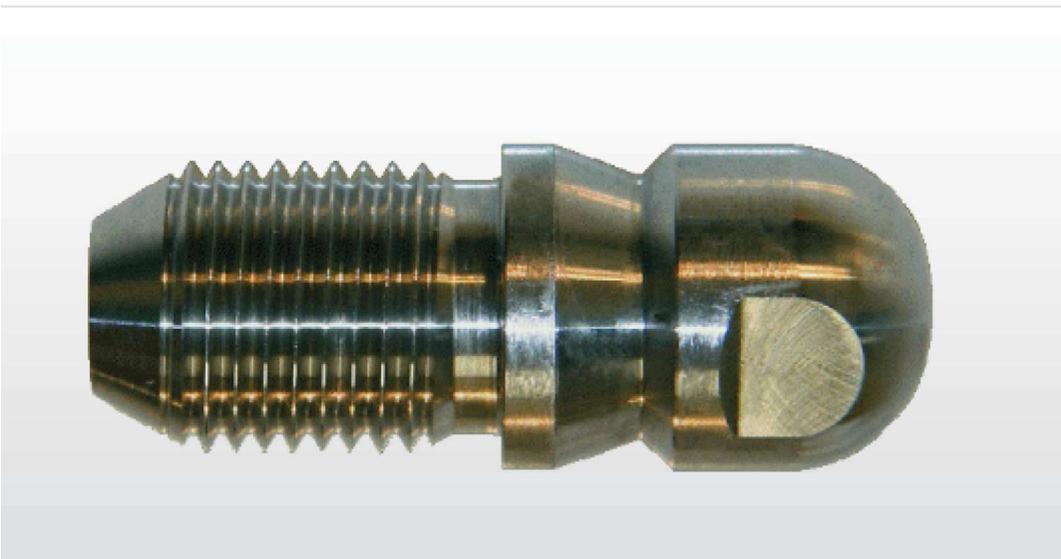
The stainless steel hardend Male Machine Screw (MMS) nozzles come in pressure ratings to match your rigid lances with female machine screw threads M14x1,5.

The compact 1400 bar-MMS has a special slimline design that assures that the outside diameter matches the OD of the lance, and have hex wrench flats for easy installation.

Please specify drilling pattern, pressure and flow when ordering.

Part Number: 15-008-107

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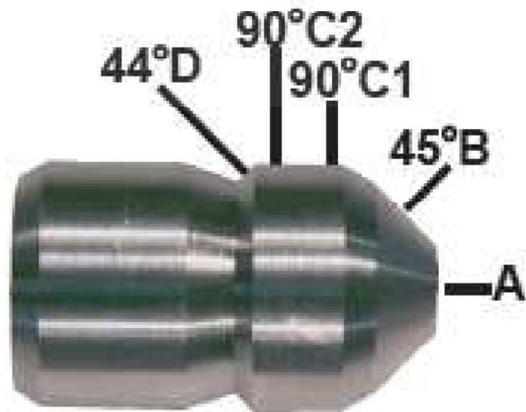
1400 bar

MP Male Standard Nozzles

The 1400 bar (20K) MP Male Standard Nozzle is designed to go with flex or rigid lances with either right or left hand Autoclave type medium pressure threads, a special seating design with wrench flats for easy installation, and offer a wide range of options for precision drilled orifices.

MP Standard Nozzles 1400 bar (20K)
 MP Standard Düsen 1400 bar
 MP standaard nozzles 1400 bar

LH thread / Links Gewinde/Linkse draad		RH thread / Rechts Gewinde/Rechtse draad		Dimension mm. Abmessung mm. afmeting mm.	Patterns Bohrung Patron Nozzle patroon
Part No. Teile nr. Art. nr.	Connection (M) Anschluß (AG) aansluiting (bu)	Part No. Teile nr. Art. nr.	Connection (M) Anschluß (AG) aansluiting (bu)		
16-020-004	1/4"-28 <u>MPLH</u>	16-020-001	1/4"-28 <u>MPRH</u>	Ø 9,5 x 31,8	At choice Ihre Wahl Naar keuze
16-020-005	3/8"-24 <u>MPLH</u>	16-020-002	3/8"-24 <u>MPRH</u>	Ø 12,7 x 38,1	
16-020-006	9/16"-18 <u>MPLH</u>	16-020-003	9/16"-18 <u>MPRH</u>	Ø 15,9 x 41,3	



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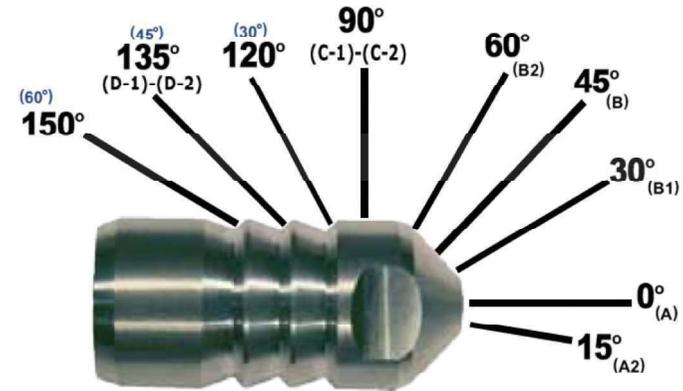
1400 bar

MP Standard Nozzles 20K

The economical stainless steel MP Standard style nozzles come in pressure ratings to match your flex or rigid lances.

The 20K-MP Standard Nozzle is designed to go with lances with either right or left hand Autoclave-type medium pressure threads, a special seating design that eliminates the requirement for gland nuts and collars, wrench flats for easy installation, and offer a wide range of options for precision drilled orifices.

MP Standard Nozzles 1400 Bar (20K)
MP Standard Düsen 1400 Bar
MP Standaard Nozzles 1400 Bar



Part Number Teile Nummer Artikelnummer	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Part Number Teile Nummer Artikelnummer	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Dimensions $\varnothing \times L$ (mm) Abmessungen $\varnothing \times L$ (mm) Afmetingen $\varnothing \times L$ (mm)	Drilling mm Bohrungen mm Boringen mm
16-020-004	1/4"-28 MPL <u>H</u>	16-020-001	1/4"-28 MPR <u>H</u>	9,5 x 31,8	At Choice Ihre Wahl Naar Keuze
16-020-005	3/8"-24 MPL <u>H</u>	16-020-002	3/8"-24 MPR <u>H</u>	12,7 x 38,1	
16-020-006	9/16"-18 MPL <u>H</u>	16-020-003	9/16"-18 MPR <u>H</u>	15,9 x 41,3	

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1000 bar

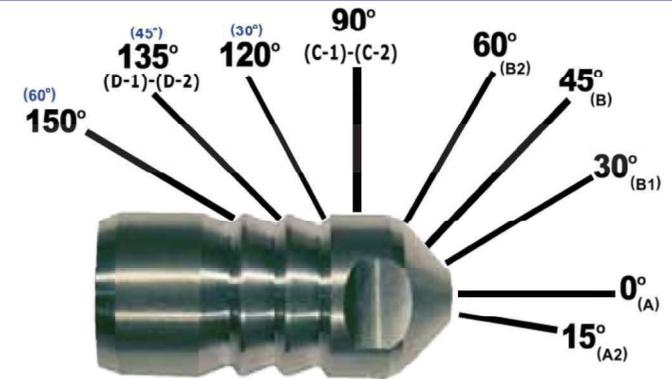
Multi-Groove Nozzles 15K

The high production stainless steel Multi-Groove nozzles come in pressure ratings to match your flex or rigid lances.

The 1000 bar (15K)-MG features FNPT threads to go with lances with MNPT threads. The Multi-Grooves have wrench flats for easy installation on the lance, and offer many options for up to 4 rows of precision drilled orifices.

Please specify drilling pattern, pressure and flow when ordering.

MGFNPT Multi Groove Nozzles 1000 Bar (15K)
MGFNPT Multi Rille Düsen 1000 Bar
MGFNPT Multi Groef Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Dimensions $\varnothing \times L$ mm Abmessungen $\varnothing \times L$ mm Afmetingen $\varnothing \times L$ mm	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Drilling Bohrungen Boringen
15-003-001	9,53 x 32,54	1/16"NPT	At Choice Ihre Wahl Naar Keuze
15-003-011	11,91 x 41,28	1/8"NPT	
15-003-021	15,88 x 41,28	1/4"NPT	
15-003-031	22,23 x 47,62	3/8"NPT	
15-003-041	25,40 x 51,89	1/2"NPT	

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1000 bar

Nozzle drivers

Nozzle drivers made of the highest quality st. steel material, available with drilled holes or with nozzle inserts.

[Documentation](#)

Nozzle drivers 1000 bar (15K)
 Vorschubdüsen 1000 bar
 Trek nozzles 1000 bar



Part. No. Teile Nr. Art. nr	Diameter OD (mm.) Durchmesser (mm.) Buitendiameter (mm.)	Connections Anschlußgewinde Aansluiting	Holes mm. Bohrungen mm. Boringen mm.	Ltr./min. 750 bar
ND10	10	M7x1M/F	2xø0,7	12
ND12	12	1/8" BSPM/F	2xø1,0	24
ND12in			2xM3(ø0,8)	
ND18	18	1/4" BSPM/F	2xø1,0	
ND18in			2xM3(ø0,8)	
ND22	22	1/4" BSPM/F	2xø1,0	
ND22in			2xM4(ø0,9)	
ND27	27	M22x1,5M/M	2xø1,0	
ND27in			2xM4(ø0,9)	
ND28	28	M22x1,5M/M24x1,5M	2xø1,0	
ND28in			2xM4(ø0,9)	
20-026-031	Hex 29	M24x1,5M/M	2xchoice	choice

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1000 bar

Nozzle drivers NPT

The Nozzle drivers (thruster nozzles) are used with flex lances in conjunction with another tube cleaning nozzle.

It allows one to "stack" the nozzles so that additional jets can be used for a more through cleaning.

Nozzle Drivers 1000 Bar (15K)
Vorschub Düsen 1000 Bar
Trek Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Dimensions $\varnothing \times L$ mm Abmessungen $\varnothing \times L$ mm Afmetingen $\varnothing \times L$ mm	Connection (M/F) Anschlußgewinde (AG/IG) Aansluiting (BU/BI)	Drilling Bohrungen Boringen
15-101-001	9,53 x 31,75	1/16"NPT	At Choice Ihre Wahl Naar Keuze
15-101-011	11,89 x 36,50	1/8"NPT	
15-101-021	15,88 x 38,10	1/4"NPT	
15-101-031	22,23 x 46,81	3/8"NPT	
15-101-041	25,40 x 50,80	1/2"NPT	
15-101-051	31,75 x 57,15	3/4"NPT	
15-101-061	41,28 x 61,90	1"NPT	



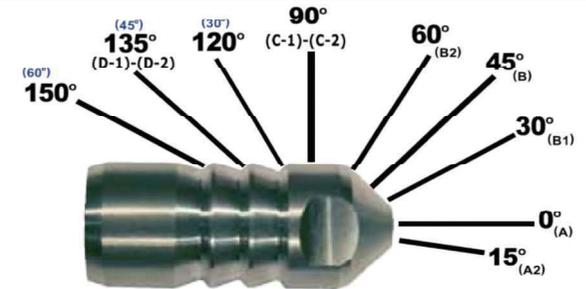
1000 bar

Penetrator Nozzles

The Penetrator stainless steel nozzles are used with rigid or flex lances NPT - BSP - M7x1 - M10x1 threads. The rounded nose shape permits a range of forward and side drilling patterns while the backwards facing ridge allows a large number of pulling orifices to more efficiently clean fouled tubing. Wrench flats allow for easy installation.

NEW PENETRATOR NOZZLES WITH M10x1 THREAD (FLAT BOTTOM).

PFNPT Penetrator Nozzles 1000 Bar (15K)
PFNPT Lange Rohr Düsen 1000 Bar
PFNPT Lange Lans/Kruip Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Dimensions $\varnothing \times L$ mm Abmessungen $\varnothing \times L$ mm Afmetingen $\varnothing \times L$ mm	Dimensions $\varnothing \times L$ inches Abmessungen $\varnothing \times L$ inches Afmetingen $\varnothing \times L$ inches	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Drilling Bohrungen Boringen
15-005-001	9,53 x 33,32	0.375 x 1.312	1/16"NPT	At Choice Ihre Wahl Naar Keuze
15-505-001	9,53 x 38,10	0.375 x 1.500	M7x1	
15-605-001				
15-005-011	11,91 x 38,10	0.468 x 1.500	1/8"NPT	
15-505-011			1/8"BSP	
15-509-011			M10x1	
15-005-021	15,88 x 44,45	0.625 x 1.750	1/4"NPT	
15-505-021			1/4"BSP	
15-005-031	22,23 x 46,02	0.875 x 1.812	3/8"NPT	
15-005-041	25,40 x 52,37	1.000 x 2.062	1/2"NPT	

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1600 Bar

SJP Style nozzles 1600 bar

Very high quality compact tube cleaning nozzle up to 1600 bar.

With M4 high performance inserts, the nozzle configuration is the best you can get. Available, M24x1,5male (hose) and 1/4" BSP female connection.

Check attached PDF file for more technical details.

[Documentation](#)

SJP Style Nozzles 1600 Bar (22.8K)
SJP Style Düsen 1600 Bar
SJP Style Nozzles 1600 Bar



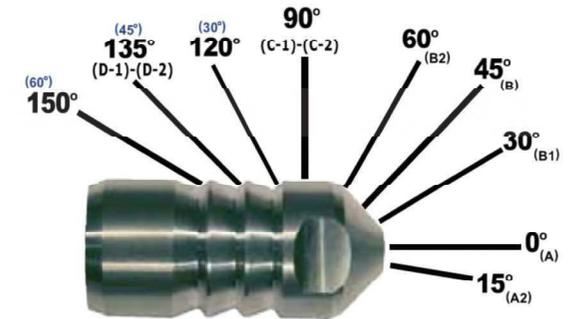
16-041-001



16-041-003



16-041-004



Part Number Teile Nummer Artikelnummer	Connection Anschlußgewinde Aansluiting	Dimensions $\phi \times L$ (mm) Abmessungen $\phi \times L$ (mm) Afmetingen $\phi \times L$ (mm)	Max. Working Pressure Max. Arbeitsdruck Max. Werkdruk	Configuration Konfiguration Configuratie
16-041-001	M24x1,5 Male	27 x 47,5	1600 Bar	1@A(0°), 2@C(90°), 4@D(135°)
16-041-003				1@A(5°), 2@C(90°), 6@D(135°)
16-041-004				10@C(90°)

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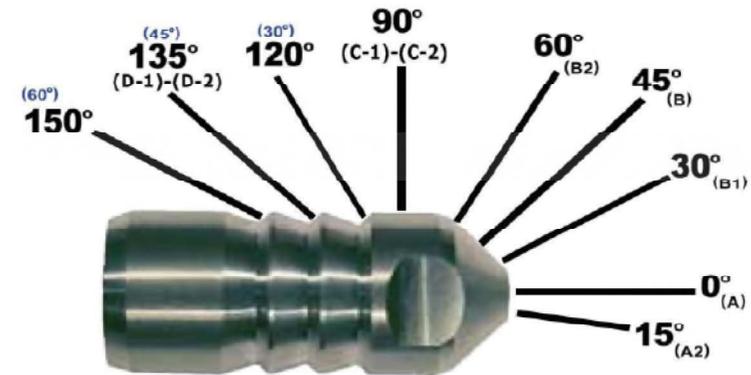


1000 bar

Standard Nozzles + TC Blade 1000 Bar (15K)

The tungsten carbide tipped tube nozzles are to be used in rotary applications for the removal of hardened plugs in heat exchanger tubes. Please specify drilling pattern, pressure and flow when ordering.

Tungsten Carbide Cutting Blade Nozzles 1000 Bar (15K)
Hartmetall Schneide Platte Düsen 1000 Bar
Hardmetalen Snij Blad Nozzles 1000 Bar



Part Number Teile Nummer Artikelnummer	Dimensions $\varnothing \times L$ mm Abmessungen $\varnothing \times L$ mm Afmetingen $\varnothing \times L$ mm	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Drilling Bohrungen Boringen
15-029-101	9,53 x 22,23	1/16"NPT	At Choice Ihre Wahl Naar Keuze
15-029-111	11,89 x 23,80	1/8"NPT	
15-029-121	15,88 x 31,75	1/4"NPT	
15-029-131	22,23 x 36,50	3/8"NPT	
15-029-141	25,40 x 41,28	1/2"NPT	

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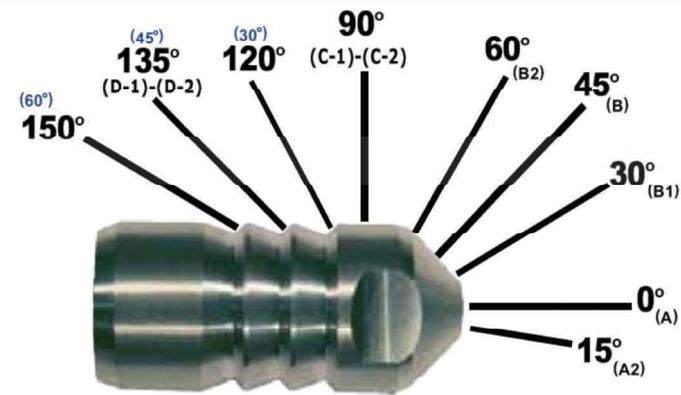


1400 bar

Standard Nozzles + TC Blade 1400 Bar (20K)

The tungsten carbide tipped tube nozzles are to be used in rotary applications for the removal of hardened plugs in heat exchanger tubes.

Tungsten Carbide Cutting Blade Nozzles 1400 Bar (20K)
Hartmetall Schneide Platte Düsen 1400 Bar
Hardmetalen Snij Blad Nozzles 1400 Bar



Part Number Teile Nummer Artikelnummer	Dimensions $\varnothing \times L$ mm Abmessungen $\varnothing \times L$ mm Afmetingen $\varnothing \times L$ mm	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Drilling Bohrungen Boringen
16-001-221	9,53 x 31,12	1/4"-28MPLH	At Choice Ihre Wahl Naar Keuze
16-002-221	11,89 x 34,93	3/8"-24 MPLH	
16-003-221	19,05 x 41,28	9/16"-18 MPLH	

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1000 Bar

TLE nozzles

TLE nozzles in different sizes - connections to use on lance machines.
Perfect cleaning quality, nozzles are all tangential drilled (out of center).
Please check out attached PDF file for more details.

[Documentation](#)

TLE nozzles 1000 bar
 TLE Düsen 1000 bar
 TLE nozzles 1000 bar



Part No. Teile nr. Art. nr	Dimensions mm. Abmessung mm. Afmeting mm.	Connection (F) Gewinde (IG) Aansluiting (bi.)	Nozzle Pattern Düse Patron Nozzle patroon	Nozzle diameter mm. Düse durchmesser mm. Nozzle diameter mm.
15-351-001	Ø 10 x 25	M7x1	1@front/4@90°/4@90°	9x Ø 0,60
15-351-004	Ø 9,5 x 20	1/16"NPT		
15-351-002	Ø 12 x 30	1/8"BSP		1x Ø 0,50 / 8 x Ø 0,60
15-351-005	Ø 11,8 x 25	1/8"NPT		
15-351-003	Ø 16 x 35	1/4"BSP		
15-351-006	Ø 16 x 30	1/4"NPT		

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1000 bar

TLX Nozzles 1000 bar (15K)

The stainless steel TLX nozzles come in pressure ratings to match your flex or rigid lances. The 15K-TLX features FNPT threads to go with lances with MNPT threads.

All have wrench flats for easy installation on the lance. All offer many options for 3 or 4 rows of precision drilled orifices. Please specify drilling pattern, pressure and flow when ordering.

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1400 bar

TLX Nozzles 1400 bar (20K)

The stainless steel TLX Nozzles come in pressure ratings to match your flex or rigid lances. The 20K-TLX have Autoclave-type MP threads. All have wrench flats for easy installation on the lance. All offer many options for 3 or 4 rows of precision drilled orifices.

TLX Nozzles 1400 Bar (20K)
TLX Düsen 1400 Bar (20K)
TLX Nozzles 1400 Bar (20K)



Part Number Teile Nummer Artikelnummer	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Part Number Teile Nummer Artikelnummer	Connection (F) Anschlußgewinde (IG) Aansluiting (BI)	Dimensions $\varnothing \times L$ (mm) Abmessungen $\varnothing \times L$ (mm) Afmetingen $\varnothing \times L$ (mm)	Drilling mm Bohrungen mm Boringen mm
16-004-001	1/4"-28 MPL <u>H</u>	16-004-101	1/4"-28 MPR <u>H</u>	9,5 x 34,9	At Choice Ihre Wahl Naar Keuze
16-005-001	3/8"-24 MPL <u>H</u>	16-005-101	3/8"-24 MPR <u>H</u>	11,9 x 41,9	
16-006-001	9/16"-18 MPL <u>H</u>	16-006-101	9/16"-18 MPR <u>H</u>	17,5 x 52,4	



1000 Bar

Spin Jet type turbo

A standard tube cleaning nozzle will clean very good but a standard nozzle will always leave "cleaning marks" in the tube.

To avoid this problem we can clean direct the tube with the Front radial Spin Jet ore after the standard tube cleaning nozzle for "polishing" the tube.

Those nozzles can be used for cleaning "problem tubes" for a extremely high cleaning rate.

Tube nozzles (HPF types) custom drilled can be used to cap the end (nose) of the nozzle (sold separately).

Those nozzles mostly used on lance machines.

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Spinner type Turbo 1000 Bar (15Kpsi)
 Rotierdüsen Turbo 1000 Bar
 Spin jet type Turbo 1000 Bar

Part No. Teile nr. Art. nr.	Type Form type	Dimension mm.+nozzle Abmessung mm.+Düse afmeting mm.+nozzle	Connection Anschluß aansluiting	Flow Rate Wassermenge Opbrengst	P/N end nozzle Teile nr Ende Düse Art.nr. neus nozzle	
15-059-001	TN10.516S	Ø 9,5 x 64	5/16"-24MMSM+seal end	1	HPF 1 P/N 15-065-001	
15-059-002				2		
15-059-003	TN10.516		5/16"-24MMSM	1		
15-059-004				2		
15-060-001	TN10		Ø 9,5 x 62	1/16"NPTF		1
15-060-002						2
15-161-001	TN12	Ø 12,7 x 64	1/8"BSPF	1	HPF 2 P/N 15-065-002	
15-161-002				2		
15-061-001		Ø 12,7 x 61	1/8"NPTF	1		
15-061-002				2		
15-062-001	TN16	Ø 16,9 x 61	1/4"NPTF	1	HPF 3 P/N 15-065-004	
15-062-002				2		
15-063-001	TN22	Ø 22,2 x 77	3/8"NPTF	1	HPF 4 P/N 15-065-005	
15-063-002				2		
15-064-001	TN26	Ø 26,4 x 93	1/2"NPTF	1	HPF 5 P/N 15-065-006	
15-064-002				2		



1000 bar

Spinner type FR

A standard tube cleaning nozzle will clean very good but a standard nozzle will always leave "cleaning marks" in the tube.

To avoid this problem we can clean direct the tube with the Front radial Spin Jet ore after the standard tube cleaning nozzle for "polishing" the tube.

Those nozzles can be used for cleaning "problem tubes" for a extremely high cleaning rate, the forward cutting jets will unblocked the tubes, (let the nozzle do the job, so not push the nozzle). This nozzle can only be used on lance machines, by using on a flex hose you have to use pulling nozzles (see accessories Type FR & R nozzles).

Spinner Type FR 1000 Bar (15K)
Rotierdüsen 1000 Bar
Spinjet Type FR 1000 Bar



Part Number Teile Nummer Artikelnummer	Type Form Type	Dimensions mm Abmessung mm Afmetingen mm	Connection Anschlußgewinde Aansluiting	Inserts Düsen Nozzles	l/min @750 bar	l/min @1000 bar
FR12	FR12	ø 12x50	1/8" BSP Female	2x 0,8mm 45°fr+2x 0,8mm 90°	26	30
FR18.08	FR18	ø 18x70	1/4" BSP Female	2xM4 0,8mm 45°fr+2xM4 0,8mm 90°	38	42
FR22.05	FR22	ø 22x80		2xM4 0,5mm 45°fr+2xM4 0,5mm 90°	16	19
FR22.06				2xM4 0,6mm 45°fr+2xM4 0,6mm 90°	32	37
FR22					63	73
FR31	FR31	ø 31x115	M22x1,5 Female	2xM4 1,0mm 45°fr+2xM4 1,0mm 90°	69	79
FR47	FR47	ø 47x160			69	80



1000 bar

Spinner type FRV

A standard tube cleaning nozzle will clean very good but a standard nozzle will always leave “cleaning marks” in the tube.

To avoid this problem we can clean direct the tube with the Front radial Spin Jet ore after the standard tube cleaning nozzle for “polishing” the tube.

Those nozzles can be used for cleaning “problem tubes” for a extremely high cleaning rate, the forward cutting jets will unblocked the tubes, (let the nozzle do the job, so not push the nozzle). This nozzle can be used on lance machines as well on a flex hose, the pulling nozzles will remove the dirt by using on a lance and pull the nozzle in de tube by using on flex hose.

FR18V = Falch® Drainspeed 10

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Spinner type FRV
 Rotierdüsen From FRV
 Spin jet type FRV

Part No. Teile nr. Art. nr.	Type Form type	Dimension mm. Abmessung mm. afmeting mm.	Connection (F) Anschluß (IG) aansluiting (bi)	Inserts Düsen nozzles	Ltr./min. 750 bar	Ltr./min. 1000 bar
FR12V	FR12V	Ø 12 x 50	1/8" BSP	2x0,8 45°fr/2x0,8R /2x1,0 45°	47	54
FR18.08V	FR18V	Ø 18 x 70	1/4" BSP	2xM4 0,8 45°fr/2xM4 0,8R/2xM4 0,8 45°	58	67
FR22.05V	FR22V	Ø 22 x 80		2xM4 0,5 45°fr/2xM4 0,5R/2xM4 0,9 45°	41	48
FR22.06V				2xM4 0,6 45°fr/2xM4 0,6R/2xM4 0,9 45°	57	66
FR22V				2xM4 1,0 45°fr/2xM4 1,0R/2xM4 0,9 45°	88	102
FR31V	FR31V	Ø 31 x 115	M22x1,5		94	108
FR47V	FR47V	Ø 47 x 160			96	110

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1000 bar

Spinner type R

A standard tube cleaning nozzle will clean very good but a standard nozzle will always leave "cleaning marks" in the tube.

To avoid this problem we can clean direct the tube with the Radial Spin Jet ore after the standard tube cleaning nozzle for "polishing" the tube.

Those nozzles can be used on a flex hose (please use pulling nozzles for long tubes, see accessories Type FR & R nozzles) ore lance machine with standard non rotating lance(s).

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R12 R22 R47 R31 R18 R10

Spinner type R
 Rotierdüse From R
 Spin jet type R



R10M



R10MP

Part No. Teile nr. Art. nr.	Type Form type	Dimension mm. Abmessung mm. afmeting mm.	Connection Anschluß aansluiting	Inserts Düsen nozzles	Ltr./min 750 bar	Ltr./min. 1000 bar
R10	R10	Ø 10 x 45	M7 x 1F	2 x 0,8	13	15
R10M		Ø 10 x 54	5/16"-24UNFM			
R10MP						
R12.08	R12	Ø 12 x 55	1/8"BSPF	2 x 1,0	16	18
R12					22	26
R12.12					35	41
R18.08	R18	Ø 18 x 55	1/4"BSPF	2 x 0,8	20	23
R18.09				2 x 0,9	25	29
R18.10				2 x 1,0	31	36
R18.in				2 x M4 1,1	40	45
R18				2 x 1,2	45	52
R22	R22	Ø 22 x 55	M22x1,5F	2 x M4 1,2	47	54
R31	R31	Ø 31 x 85			49	57
R47	R47	Ø 47 x 100			50	58

F=Female / IG / binnendraad
 M=Male / AG / buitendraad

Also with front jet available / Auch mit Vorstrahl erreichbar / Ook met voorstraal te verkrijgen

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1000 bar

Spinner type RV

A standard tube cleaning nozzle will clean very good but a standard nozzle will always leave "cleaning marks" in the tube.

To avoid this problem we can clean direct the tube with the Radial Spin Jet ore after the standard tube cleaning nozzle for "polishing" the tube.

Those nozzles can be used on a flex hose ore lance machine with standard non rotating lance(s).the pulling nozzles will remove the dirt.

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Spinner type RV
 Rotierdüsen From RV
 Spin jet type RV

Part No. Teile nr. Art. nr.	Type Form type	Dimension mm. Abmessung mm. afmeting mm.	Connection (F) Anschluß (IG) aansluiting (bi)	Inserts Düsen nozzles	Ltr./min. 750 bar	Ltr./min. 1000 bar
R10V	R10V	Ø 10 x 50	M7 x 1	2 x 0,8 R - 2 x 0,8 45°	27	33
R12V.08	R12V	Ø 12 x 55	1/8" BSP		31	36
R12V				2 x 1,0 R - 2 x 0,8 45°	37	44
R12V.12				2 x 1,2 R - 2 x 0,8 45°	50	59
R18V.08	R18V	Ø 18 x 70	1/4" BSP	2 x 0,8 R - 2 x M4 0,8 45°	42	49
R18V.09				2 x 0,9 R - 2 x M4 0,8 45°	47	55
R18V.10				2 x 1,0 R - 2 x M4 0,8 45°	53	62
R18V.in				2 x M4 1,1 R - 2 x M4 0,8 45°	62	71
R18V				2 x 1,2 R - 2 x M4 0,8 45°	56	66
R22V	R22V	Ø 22 x 70	M22x1,5	2 x M4 1,2 R -- 2 x M4 0,9 45°	75	87
R31V	R31V	Ø 31 x 100			77	90
R47V	R47V	Ø 47 x 115			78	91