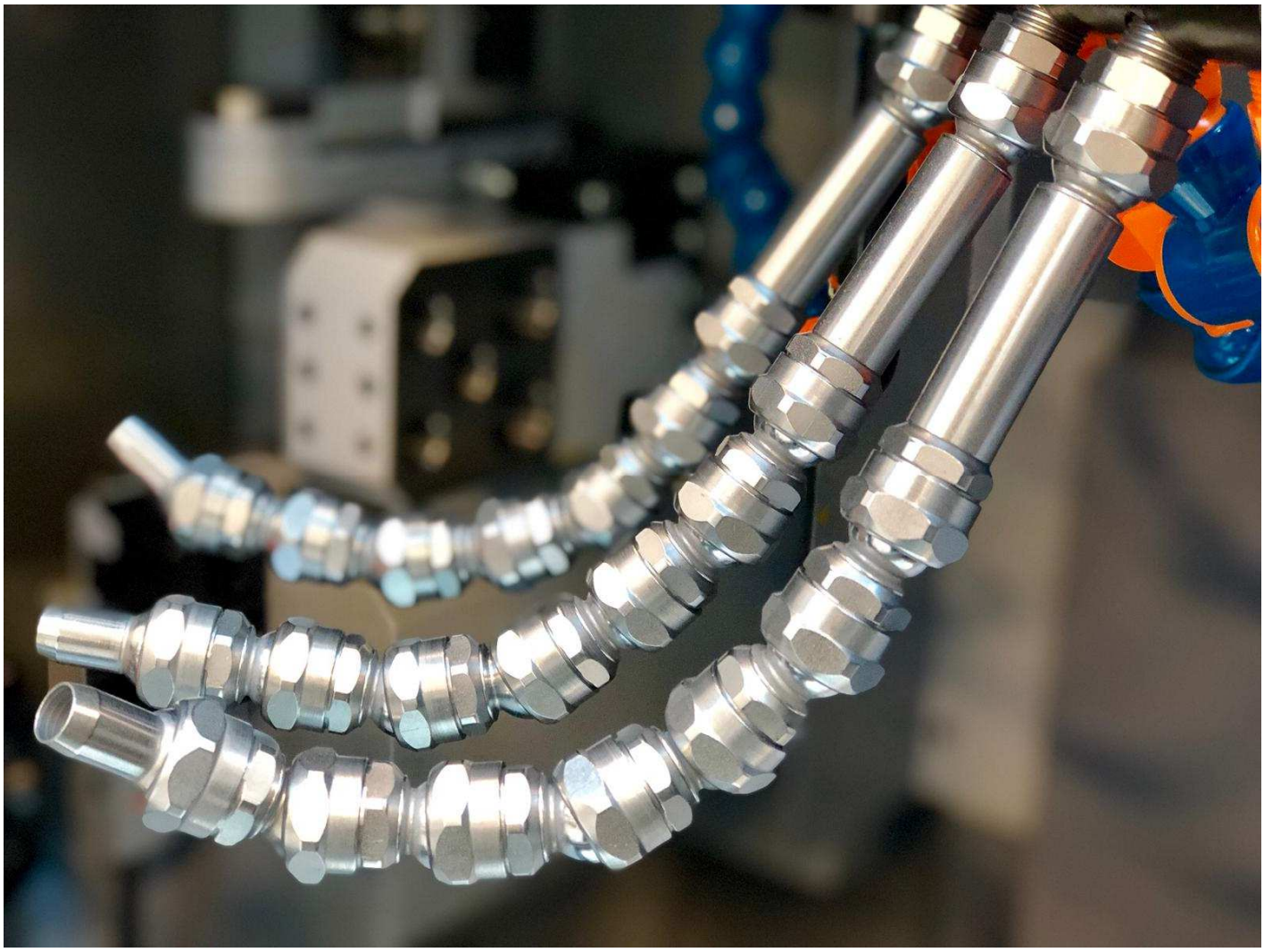
SCS　スチール製　クーラントノズル



SCS　スチール製 クーラントノズル
低・中・高圧用４種類の製品

低・中・高圧におけるフレシキブルクーラントノズルは、固定ヘッドやスイスタイプの CNC 旋盤、縦型・横型式マシニングセンター、研磨機、またはトランスファーマシンに使用出来ます。

必要流量に応じた４種類のラインナップ

- DECA：φ3.0 穴ノズル　（Max.150bar　: 51 ℓ /min）
- HECTO：φ6.0 穴ノズル　（Max.100bar　: 168 ℓ /min）
- MEGA：φ10.5 穴ノズル　（Max.80bar　: 460 ℓ /min）
- GIGA：φ16.0 穴ノズル　（Max.80bar　: 1,068 ℓ /min）

圧 (Bar)	DECA (ℓ /min)	HECTO (ℓ /min)	MEGA (ℓ /min)	GIGA (ℓ /min)
2	6	24	73	169
8	12	48	145	338
15	16	65	199	463
20	19	75	230	534
30	23	92	282	654
50	30	119	364	844
80	38	150	460	1068
100	42	168	—	—
150	51	—	—	—

フレシキブルクーラントノズルは、ナットをきつく締め付けなくても使用出来ます。
※但し高圧(20kg)の場合はスパナでの締め付けが必要です。

ポジションを維持したまま冷却中の振動や圧に耐えます。スパナを使用しなくても、位置決めや固定が可能です。

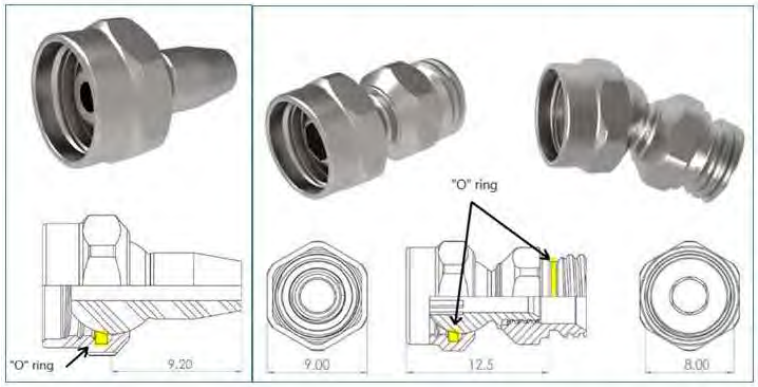
水溶性やオイル、エアーでの加工が可能です。

“接続部”（IC）のパーツにおいて、BSP ネジは六角部分に刻印が 1 つあります。そして NPT ネジには 2 つの刻印があります。メトリックネジには刻印がありません。この刻印で簡単に見分けることが出来ます。

耐久性を保証するために、ZnNi 処理（厚さ 0.9～13μm）したスチールにおける最高の精度で製造しています。

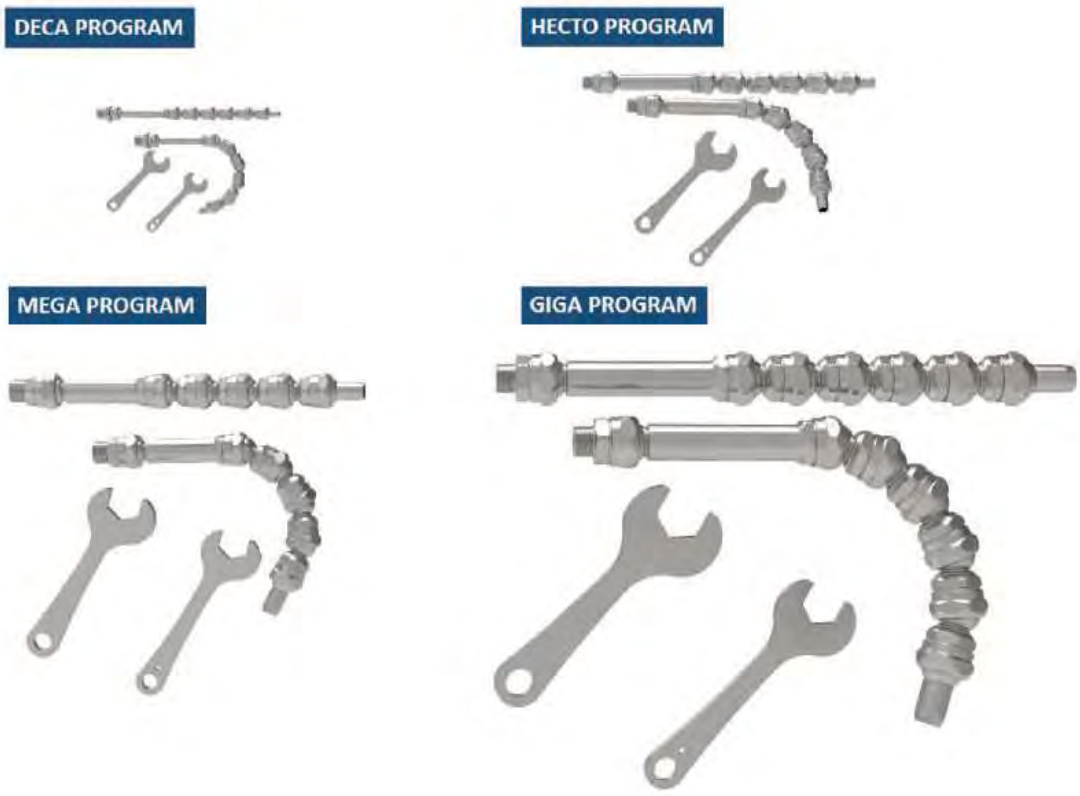
ND-GE-01 に準拠し、基本マテリアルに赤色腐食が起こらないか、35℃で 5%の NaCl 濃度の食塩水の霧で 480 時間テストをしました。結果は、ステンレススチール AISI-303 の耐食性の標準仕様と一致するかそれ以上となりました。

GIGA や MEGA のプログラムでは 80 bar（1,160 psi）まで、HECTO のプログラムには 100bar（1,450 psi）まで、DECA のプログラムには 150 bar（2,175 psi）までの圧力に耐えます。



ネジ部の両サイドに二重でパッキンがあるため手締めでご使用いただけます

4 種類(DECA, HECTO, MEGA, GIGA)スターターキット



SCS スチール製クーラントシステム　アッセンブリー

接続先：	接続部	連結部	ノズル
工作機械			
マシニングセンター 外部給油			
ロータリーツールホルダー			
固定式ツールホルダー			

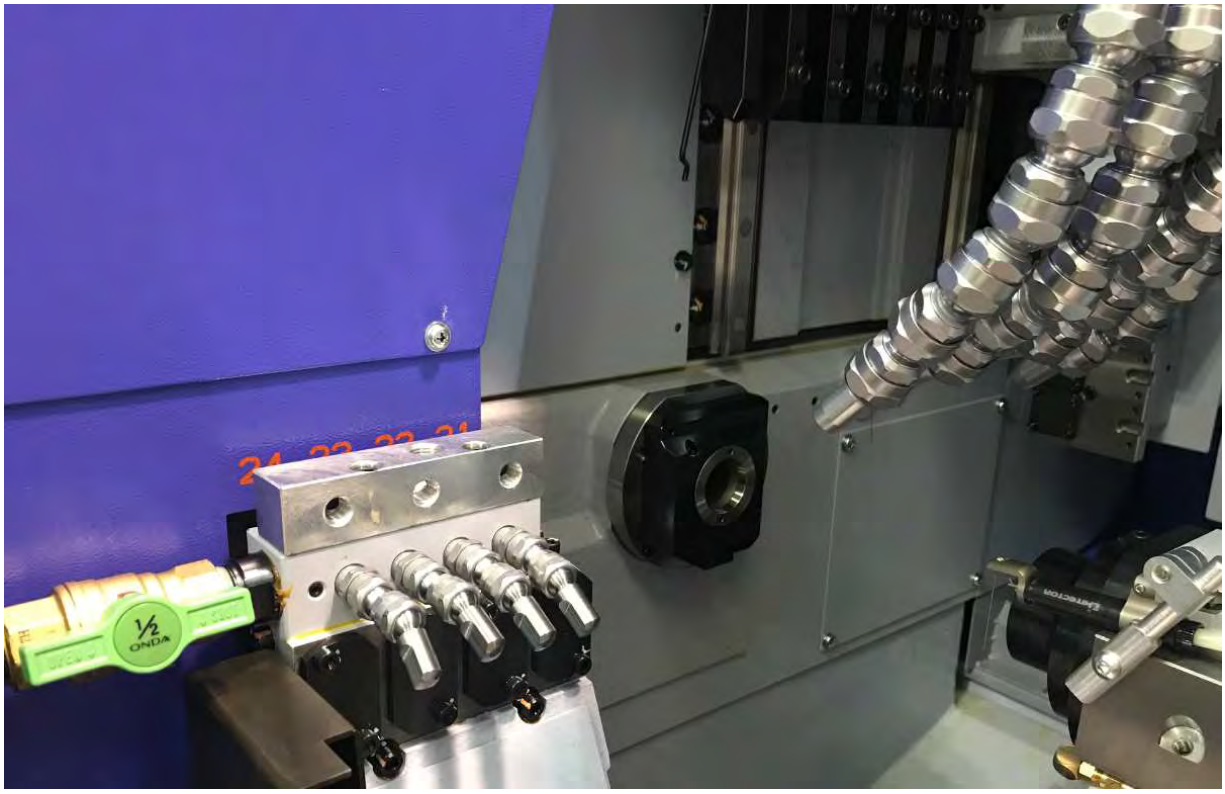
選定までの流れ

①機械接続先と接続部の確認

②ご使用長さに合わせて、連結部、個数を選定する

③ご使用用途に合わせてノズルの形状、口径を選定する

スイス-タイプの旋盤への取付け例



ツールの後方部を冷却するHECTOシステム

メインスピンドルを冷却するMEGAシステム

HECTO（6mm）のアッセンブリー

4 x 1 unit HE-IC-01-07, チューブ接続規格：NPT 1/4"(M)
4 x 1 unit HE-AC-01-00, チューブ接続：L:20.5mm
4 x 1 unit HE-NZ-03-00, ノズル 90º. ID:3.4 mm x 3 & L:24 mm

MEGA（10.5mm）のアッセンブリー

4 x 1 unit ME-IC-01-02, チューブ接続規格：NPT 3/8"(M)
4 x 4 unit ME-AC-01-00, チューブ接続：L:28.5 mm
4 x 1 ME-AC-01-02, チューブ接続：L=128.5 mm
4 x 1 unit ME-NZ-01-00 ストレートノズル
ID:10.5 mm & L:27 mm

2 x 1 unit ME-IC-01-02 チューブ接続規格：NPT 3/8"(M)
2 x 1 unit ME-NZ-01-00 ストレートノズル
ID:10.5 mm & L:27 mm

CNC 旋盤のロータリーツールホルダーへの取付け例

ロータリーツールホルダーに取り付けた DECA システム
ストレートノズル　ID:3mm & L:10mm

ロータリーツールホルダーに取り付けた HECTO システム
ストレートノズル　ID:6mm & L:16mm

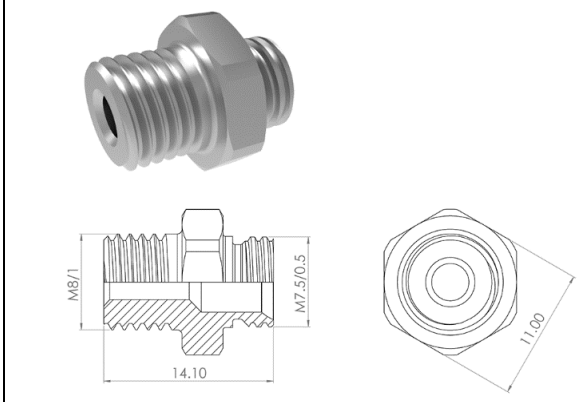
ロータリーツールホルダーに取り付けた HECTO システム
ストレートノズル　ID:3mm & L:20mm

ロータリーツールホルダーに取り付けた HECTO システム
ストレートノズル　ID:3.4x3mm & L=20mm

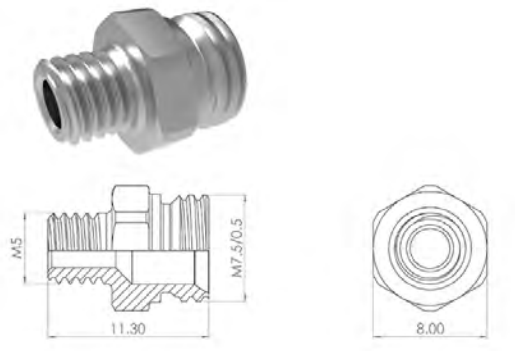
DECA (3 mm) PROGRAM

Initial connection: 接続部

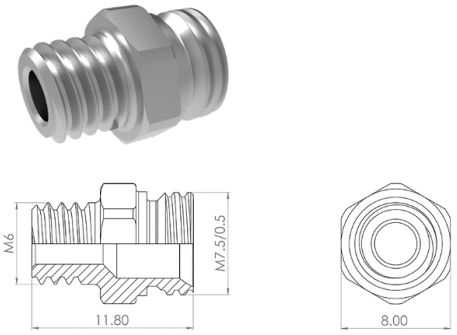
型式	内容
DE-IC-01-00	M8x1(M) to articulated connection DECA.
DE-IC-01-01	M5x0.8(M) to articulated connection DECA.
DE-IC-01-02	M6x1(M) to articulated connection DECA.
DE-IC-01-03	M10x1(M) to articulated connection DECA.
DE-IC-01-04	BSPP 1/8"(M) to articulated connection DECA.
DE-IC-01-05	BSPP 1/4"(M) to articulated connection DECA.
DE-IC-01-06	M8x1 keg(M) to articulated connection DECA.
DE-IC-01-07	M10x1 keg(M) to articulated connection DECA.
DE-IC-01-08	BSPT 1/8"(M) to articulated connection DECA.
DE-IC-01-09	NPT 1/8"(M) to articulated connection DECA.
DE-IC-01-10	NPT 1/4"(M) to articulated connection DECA.
DE-IC-01-11	M10x1.5(M) to articulated connection DECA.
DE-IC-01-12	M10x1(M) with 10 mm hexagon to articulated connection DECA.
DE-IC-01-13	BSPP 1/8"(M) with 10 mm hexagon to articulated connection DECA.
DE-IC-01-14	M10x1.5(M) with 10 mm hexagon to articulated connection DECA.
DE-IC-02-00	Ball OD:10 mm to articulated connection DECA.
DE-IC-02-01	Ball OD:12 mm to articulated connection DECA.
DE-IC-02-02	Ball OD:14 mm to articulated connection DECA.
DE-IC-02-03	Ball OD:15 mm to articulated connection DECA.
DE-IC-03-00	M8x1(M) to Nut for compression ring ID:6 mm DECA.



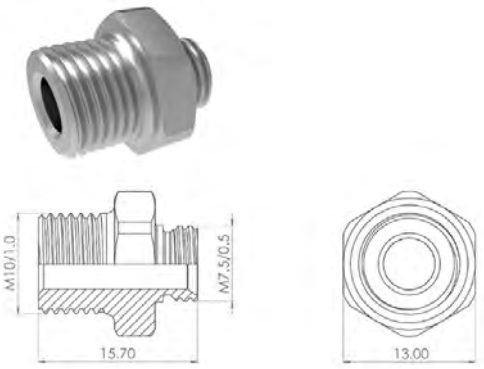
DE-IC-01-00



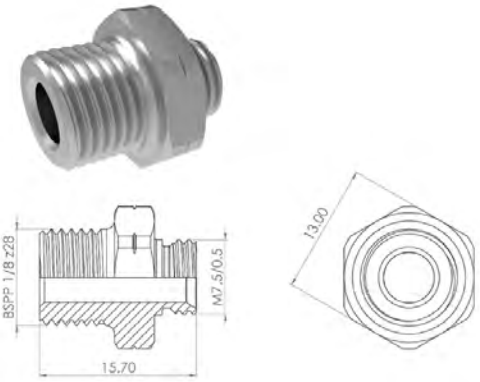
DE-IC-01-01



DE-IC-01-02



DE-IC-01-03



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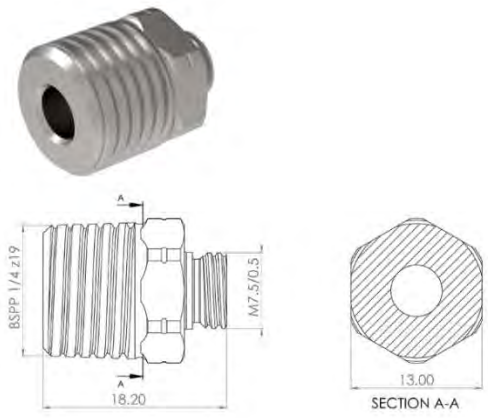

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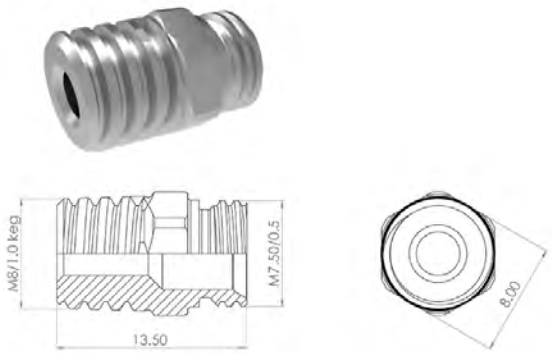

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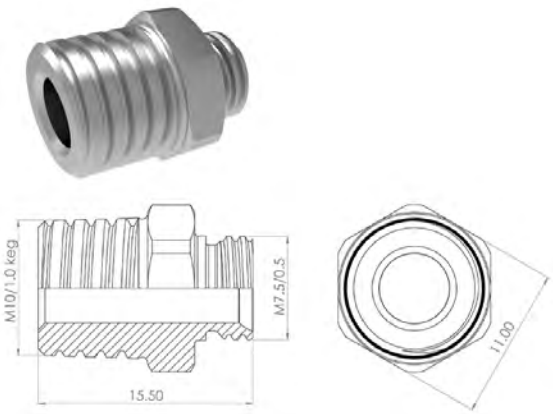
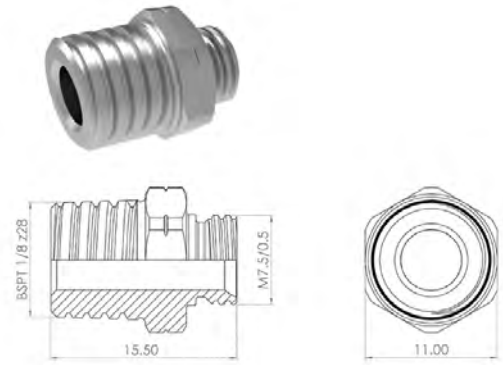
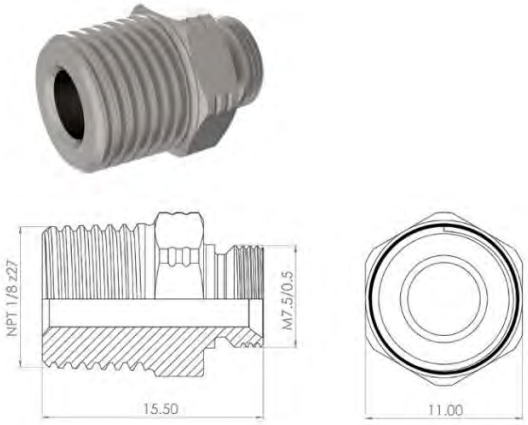


DE-IC-01-07

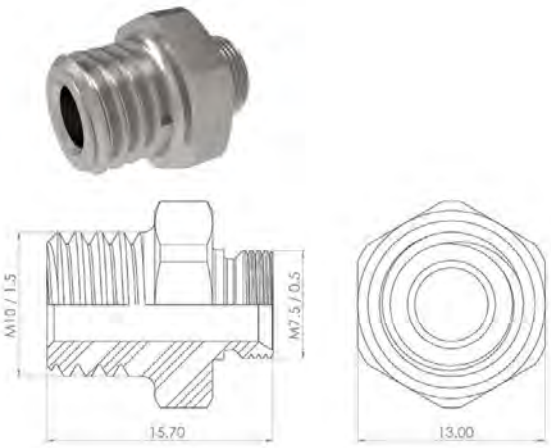


DE-IC-01-08

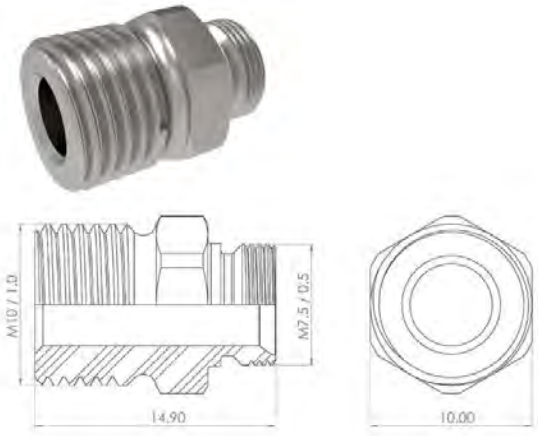


DE-IC-01-09

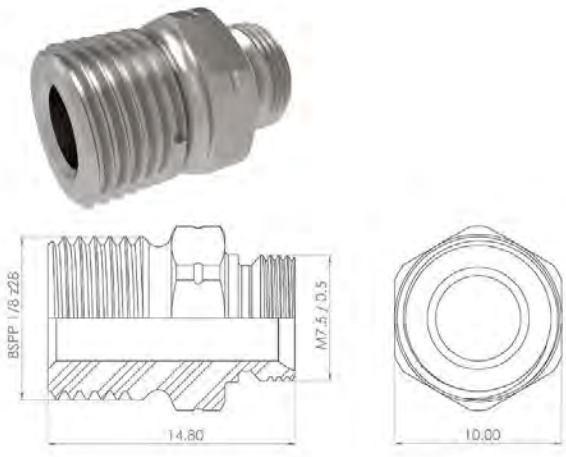
DE-IC-01-10



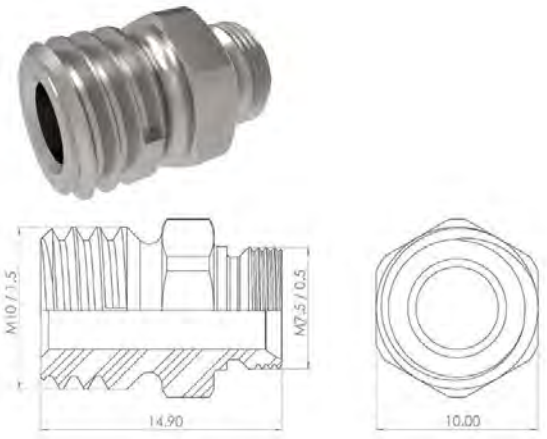
DE-IC-01-11



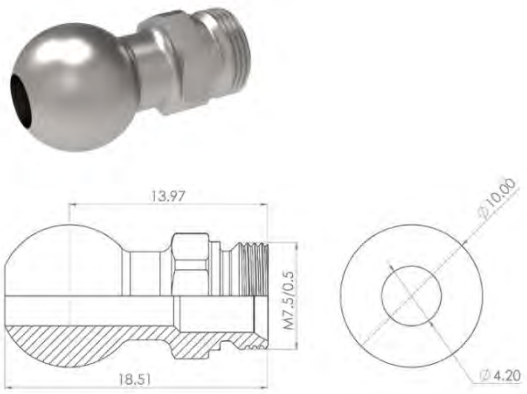
DE-IC-01-12



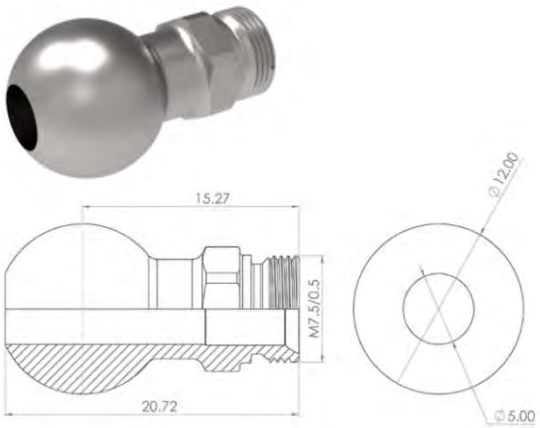
DE-IC-01-13



DE-IC-01-14



DE-IC-02-00



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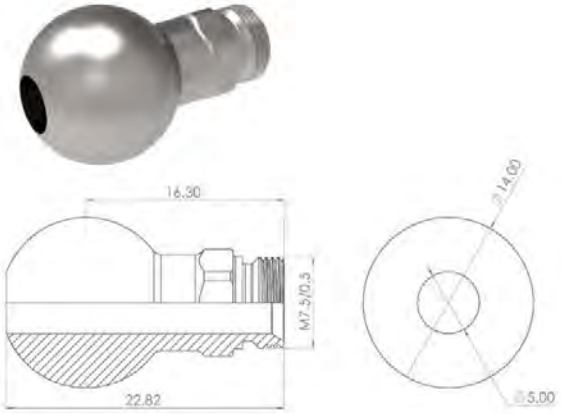

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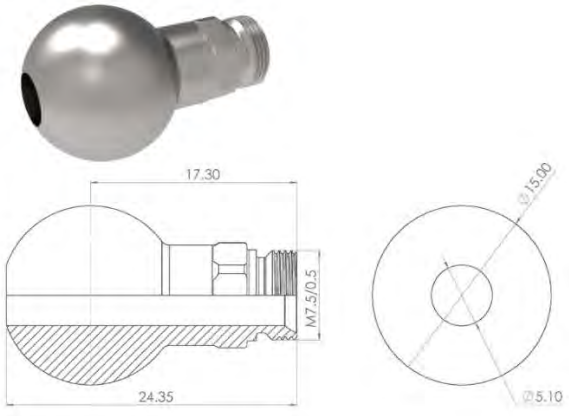
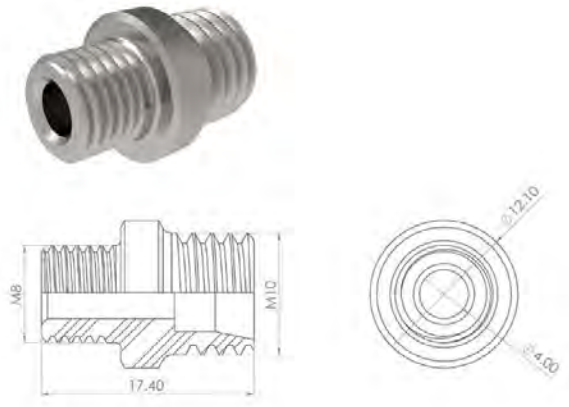


DE-IC-02-03

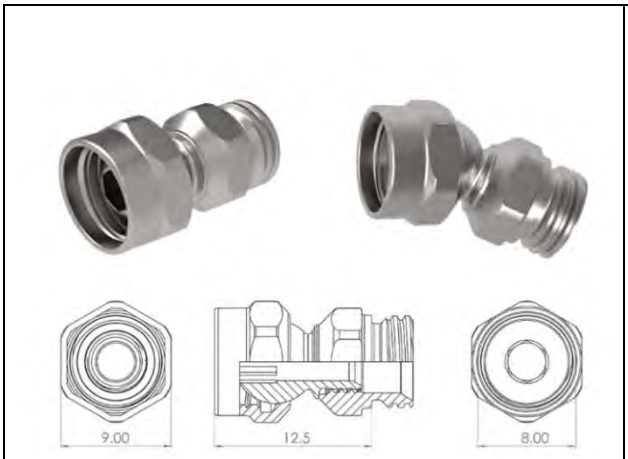


DE-IC-03-00

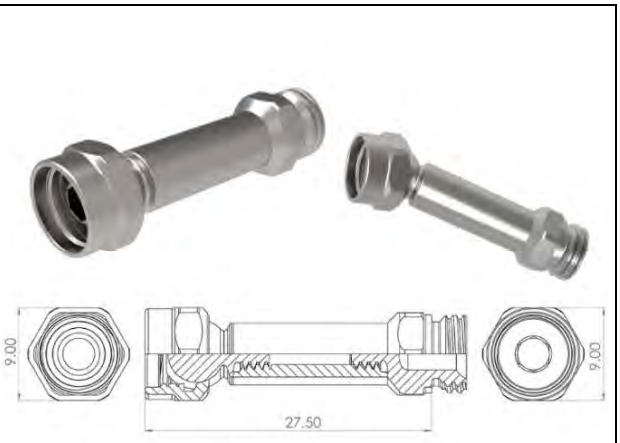
Articulated connection: 連結部

相互接続の基本連結部。 旋回角度: ±25º. ID:3 mm.
材質: スチール

Ref.	Description
DE-AC-01-00	Articulated connection DECA L:12.5 mm
DE-AC-01-01	Articulated connection DECA L:27.5 mm
DE-AC-01-02	Articulated connection DECA L:42.5 mm
DE-AC-01-03	Articulated connection DECA L:57.5 mm
DE-AC-01-04	Articulated connection DECA L:72.5 mm
DE-AC-02-00	Articulated connection to 90º DECA



DE-AC-01-00



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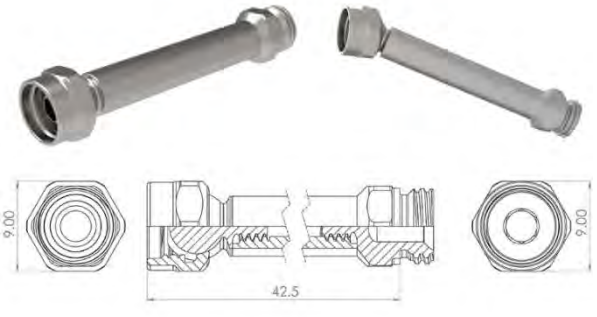

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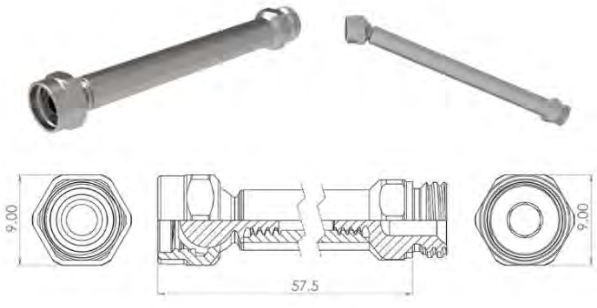
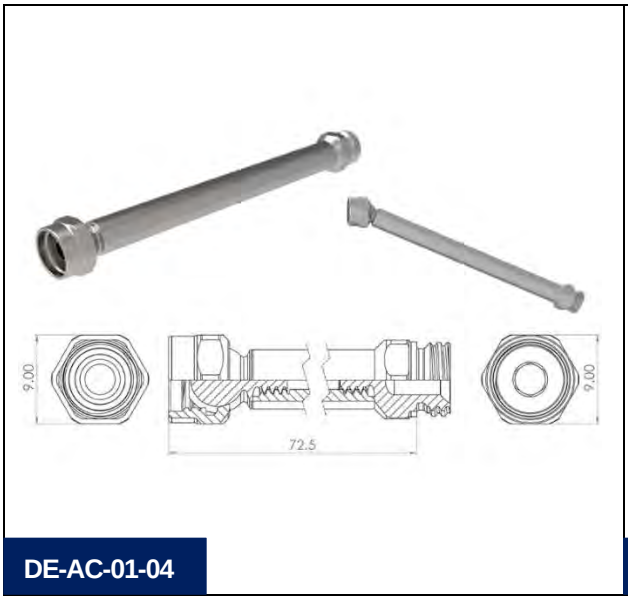
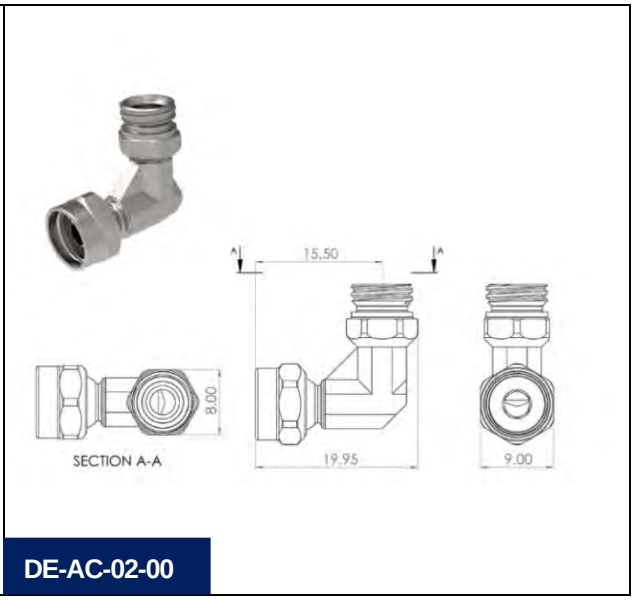


DE-AC-01-03



DE-AC-01-04



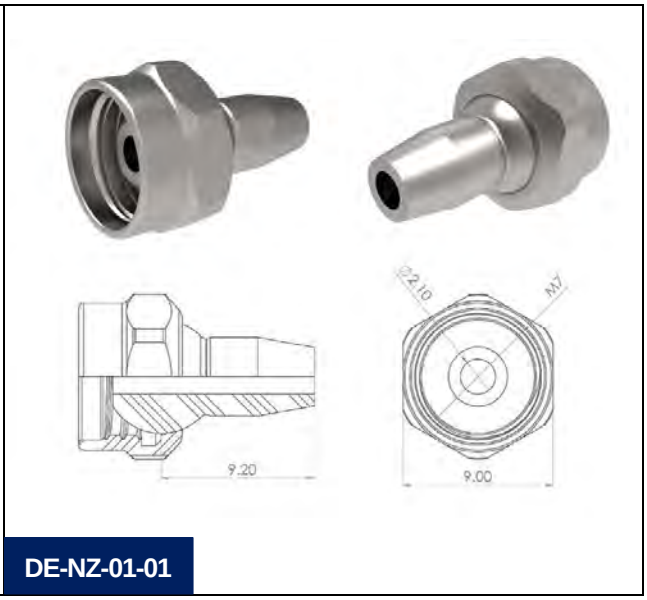
DE-AC-02-00

Coolant nozzles:ノズル

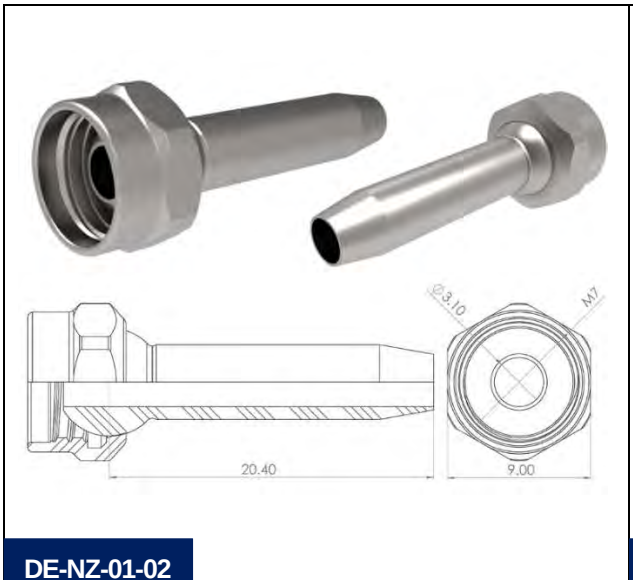
ノズルには様々な形状があり、あらゆるクーラント供給条件に対応します。
材質: スチール

Ref.	Description
DE-NZ-01-00	Straight nozzle ID:3 mm & L:9 mm
DE-NZ-01-01	Straight nozzle ID:2 mm & L:9 mm
DE-NZ-01-02	Straight nozzle ID:3 mm & L:20 mm
DE-NZ-01-03	Straight nozzle ID:2 mm & L:20 mm
DE-NZ-01-04	Straight nozzle ID:1.5 mm & L:20 mm
DE-NZ-01-05	Straight nozzle ID:1 mm & L:20 mm
DE-NZ-01-06	Straight nozzle ID:1.5 mm & L:9 mm
DE-NZ-01-07	Straight nozzle ID:1 mm & L:9 mm
DE-NZ-01-08	Straight nozzle ID:2 mm x 2 & L:12 mm
DE-NZ-01-09	Straight nozzle ID:1.8 mm x 3 & L:12 mm
DE-NZ-01-10	Straight nozzle ID:0 mm & L:9 mm
DE-NZ-02-00	Nozzle 45º simple ID:3 mm & L:15 mm
DE-NZ-02-01	Nozzle curved 45º ID:2 mm & L:20 mm
DE-NZ-02-02	Nozzle curved 45º ID:1.5 mm & L:20 mm
DE-NZ-02-03	Nozzle curved 45º ID:1 mm & L:20 mm
DE-NZ-03-00	Nozzle 90º ID:3 mm & L:15 mm
DE-NZ-03-01	Nozzle 3 outlets at 90º ID:1.8 mm & L:15 mm
DE-NZ-03-02	Nozzle 90º simple ID:3 mm & L:12 mm
DE-NZ-03-03	Nozzle 90º simple ID:1.5 mm & L:12 mm
DE-NZ-03-04	Nozzle 2 outlets at 90º simple ID:1.5 mm & L:12 mm

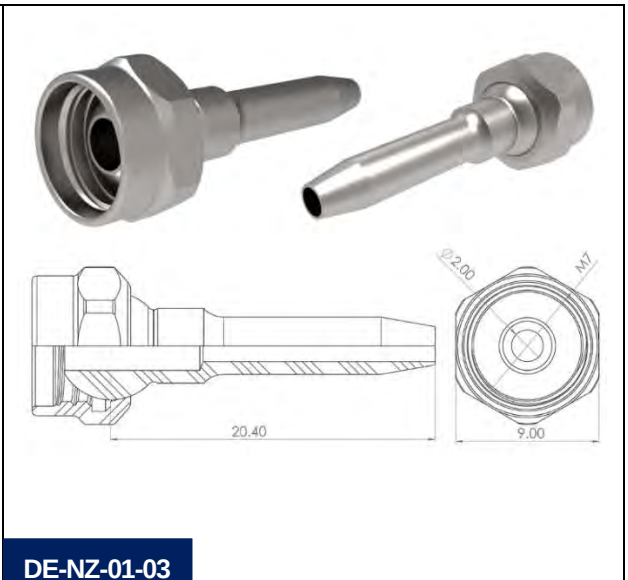
DE-NZ-01-00



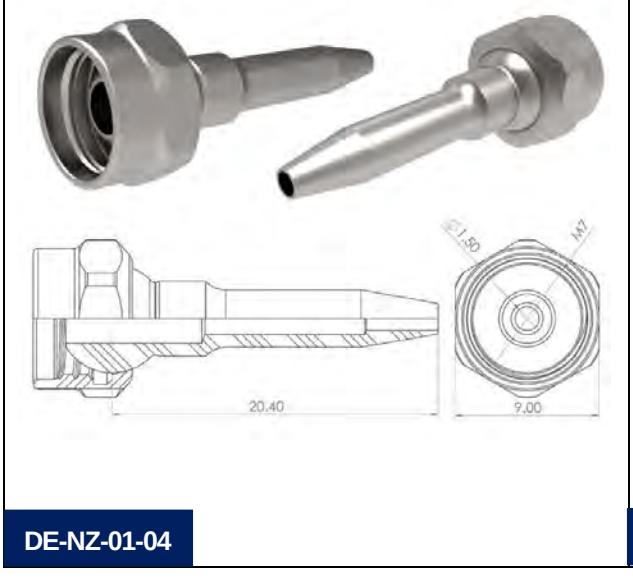
DE-NZ-01-01



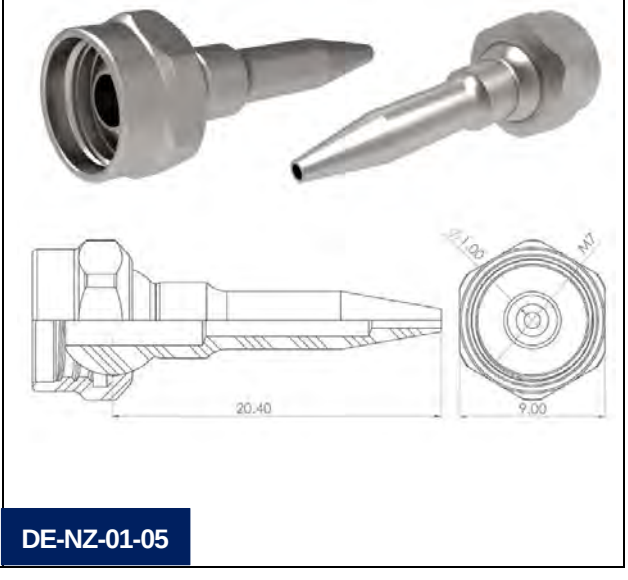
DE-NZ-01-02



DE-NZ-01-03



DE-NZ-01-04



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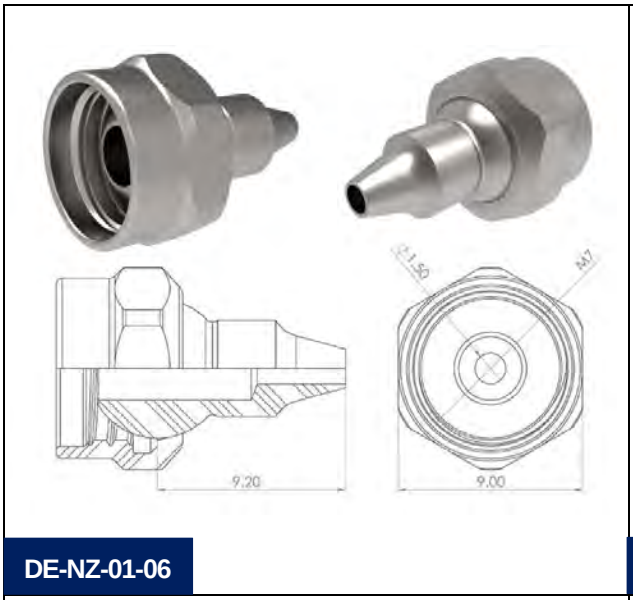

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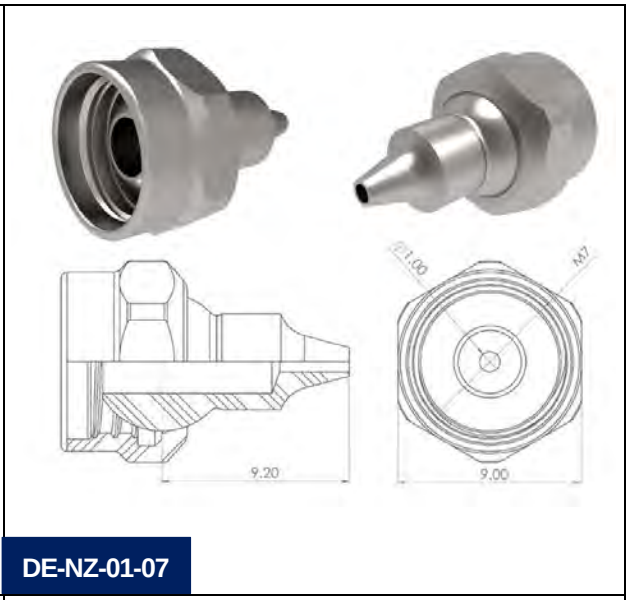

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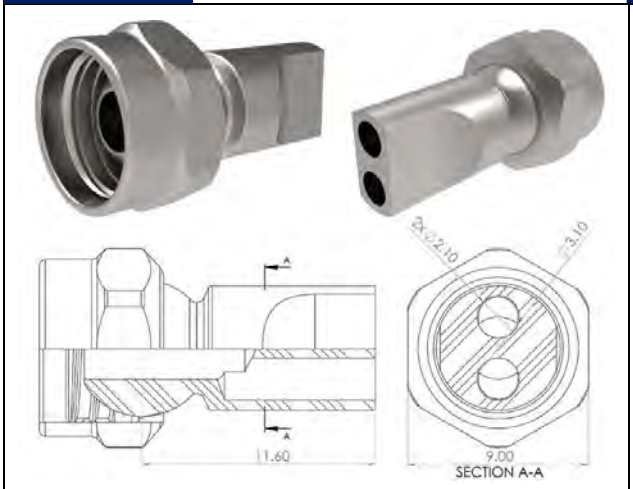

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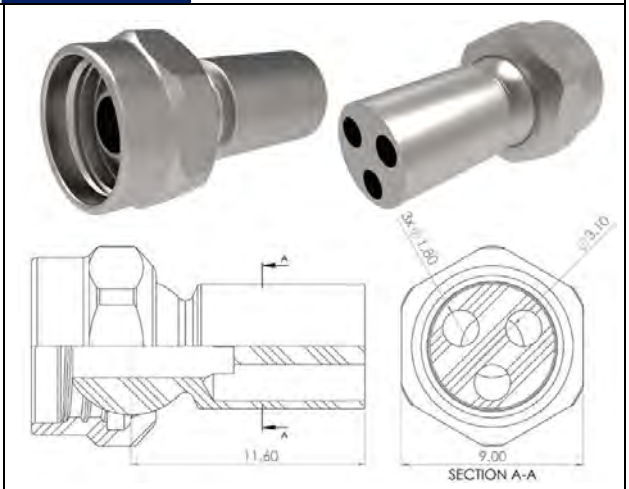

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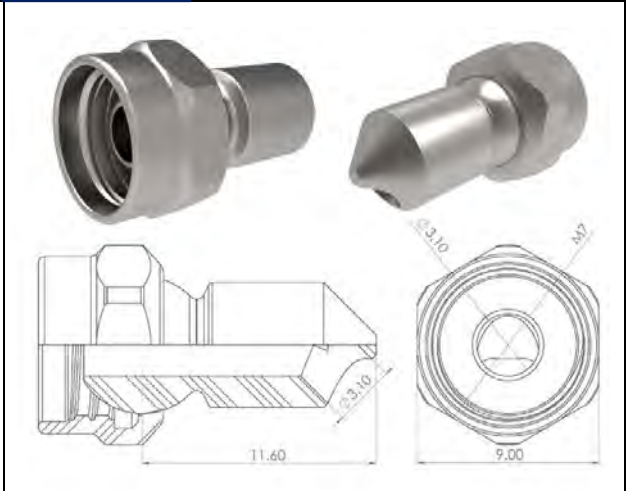
DE-NZ-01-



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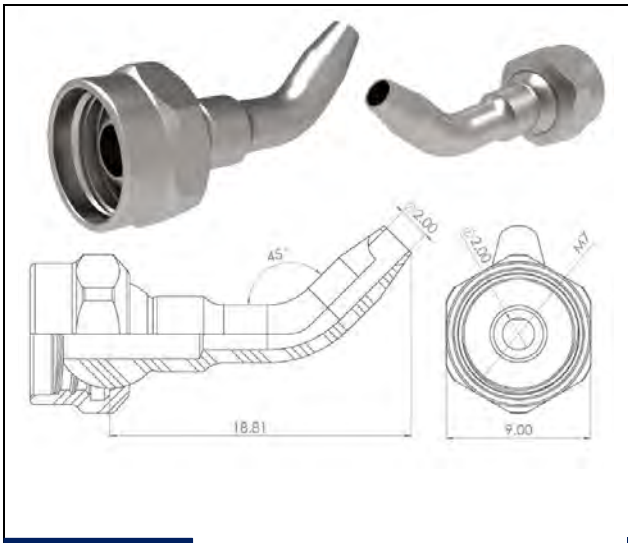

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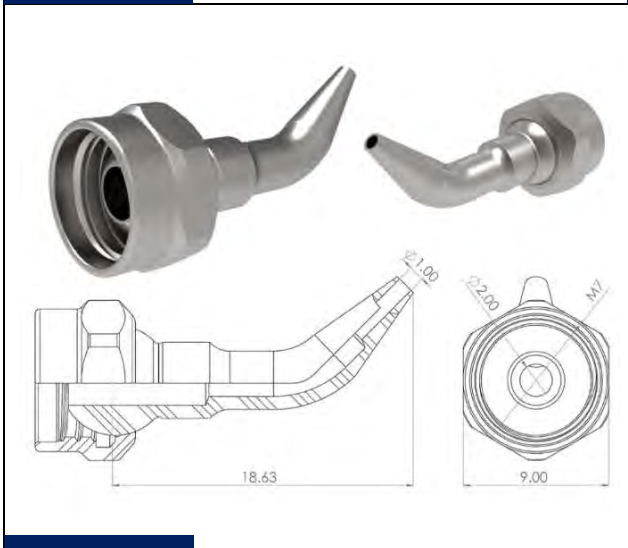

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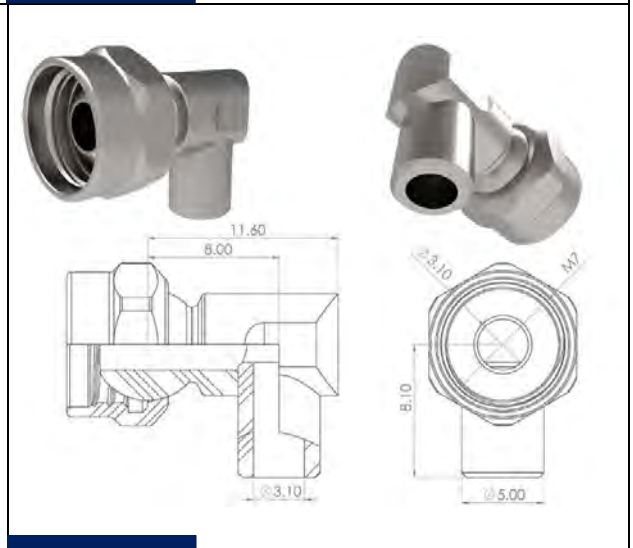

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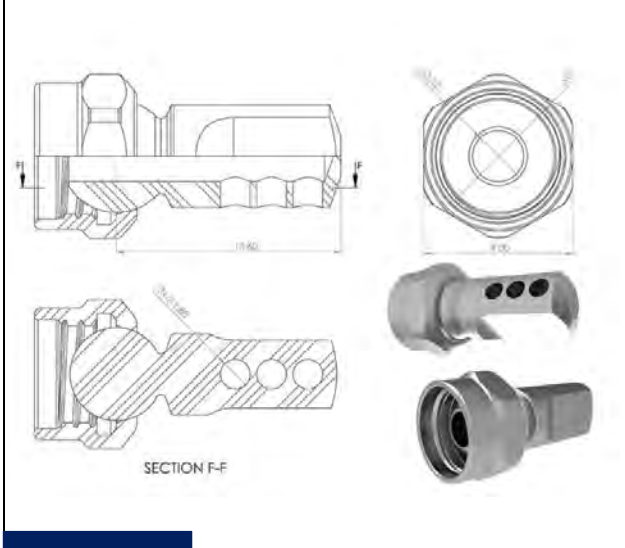


DE-NZ-03-01

DE-NZ-03-02

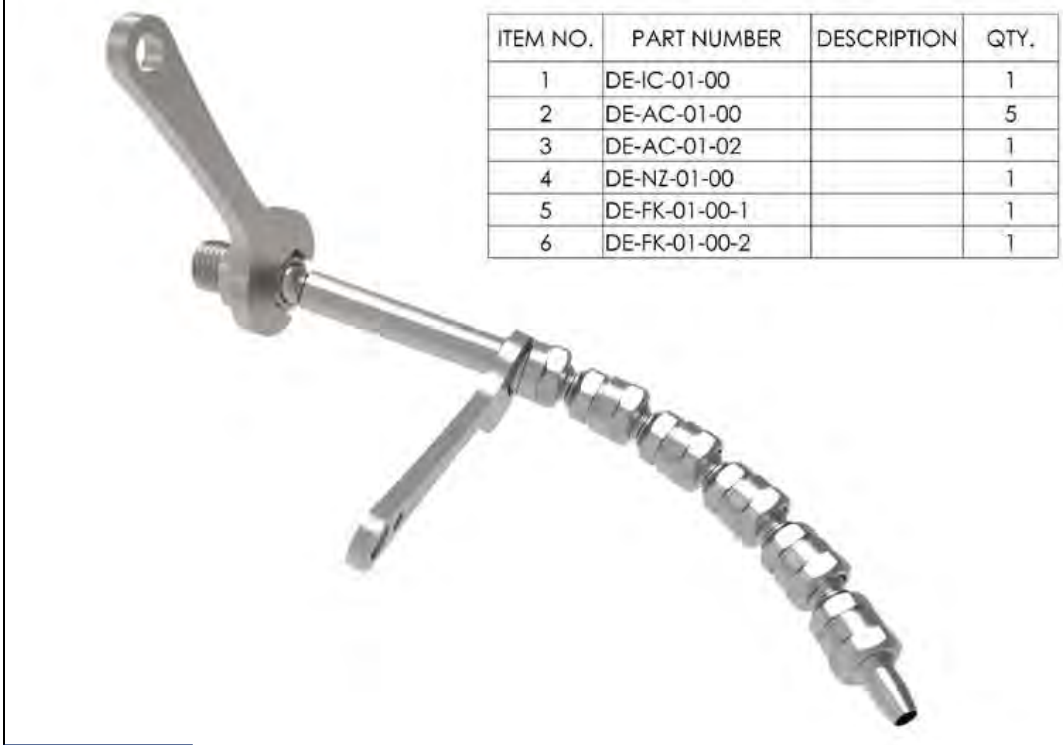
DE-NZ-03-03

DE-NZ-03-04

Starter kit

DECAシリーズのうち、最も汎用的なアプリケーションで構成したスターターキット。
重量: 30 g

型式	内容
DE-SK-01-00	**DECAスターターキット:** **一般的な冷却用　出力・1系統　L=135 mm** **重量:30 g** **機械側接続部(ネジサイズ):** DE-IC-01-00 M8x1(M)　×1 **連結部:** DE-AC-01-00 L:12.5 mm　×5 DE-AC-01-02 L:42.5 mm　×1 **ノズル部:** DE-NZ-01-00 ストレートノズル ID:3 mm & L:9 mm ×1 **取り付け用レンチセット:** DE-FK-01-00　固定用レンチ、SW8＆SW9 ×1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	DE-IC-01-00		1
2	DE-AC-01-00		5
3	DE-AC-01-02		1
4	DE-NZ-01-00		1
5	DE-FK-01-00-1		1
6	DE-FK-01-00-2		1

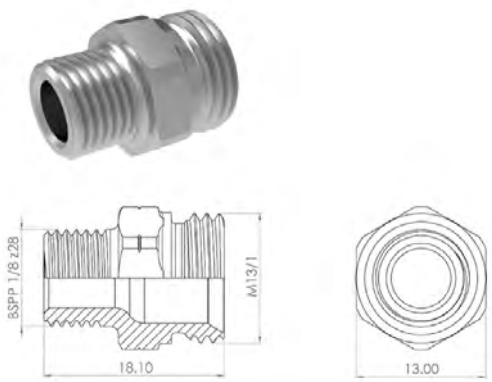
DE-SK-01-00

HECTO (6 mm) PROGRAM

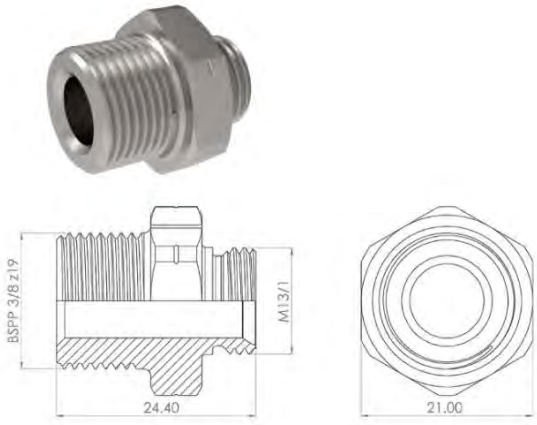
Initial connection: 接続部

工作機械や他SCSクーラントとの接続部。ID:6 mm
材質: スチール

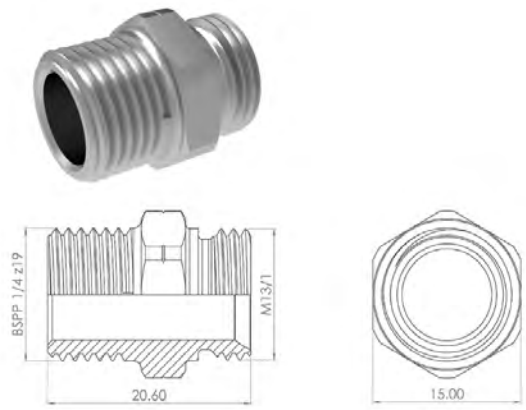
型式	内容
HE-IC-01-00	BSPP 1/8"(M) to articulated connection HECTO.
HE-IC-01-01	BSPP 3/8"(M) to articulated connection HECTO.
HE-IC-01-02	BSPP 1/4"(M) to articulated connection HECTO.
HE-IC-01-03	M8x1(M) to articulated connection HECTO.
HE-IC-01-04	M10x1(M) to articulated connection HECTO.
HE-IC-01-05	NPT 1/8"(M) to articulated connection HECTO.
HE-IC-01-06	NPT 3/8"(M) to articulated connection HECTO.
HE-IC-01-07	NPT 1/4"(M) to articulated connection HECTO.
HE-IC-01-08	BSPT 1/4"(M) to articulated connection HECTO.
HE-IC-02-00	Ball OD:10 mm to articulated connection HECTO.
HE-IC-02-01	Ball OD:12 mm to articulated connection HECTO.
HE-IC-02-02	Ball OD:14 mm to articulated connection HECTO.
HE-IC-02-03	Ball OD:15 mm to articulated connection HECTO.
HE-IC-03-00	BSPP 1/8"(M) to Nut for compression ring ID:8 mm HECTO.



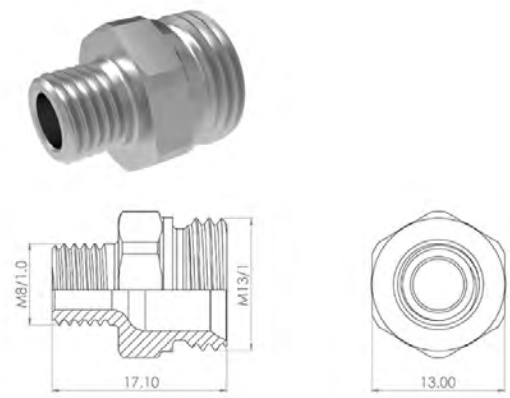
HE-IC-01-00



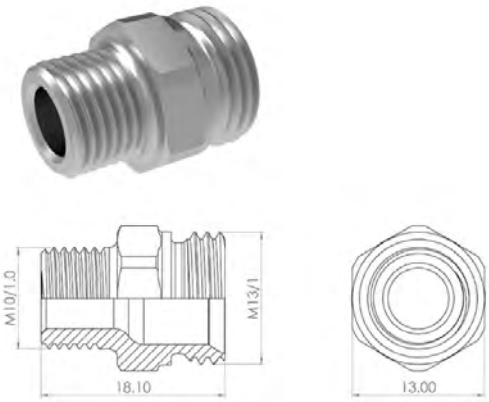
HE-IC-01-01



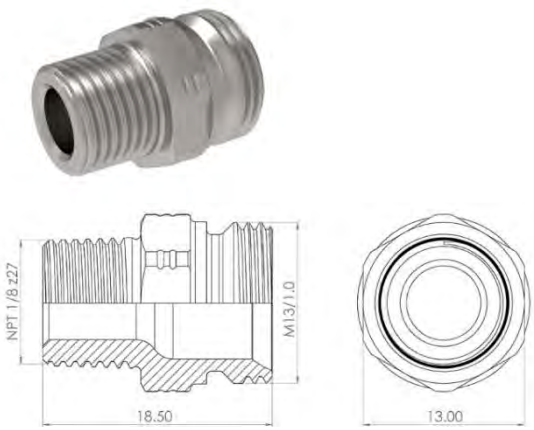
HE-IC-01-02



HE-IC-01-03



HE-IC-01-04



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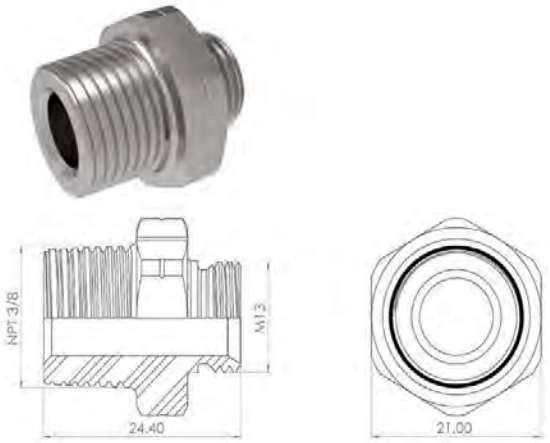

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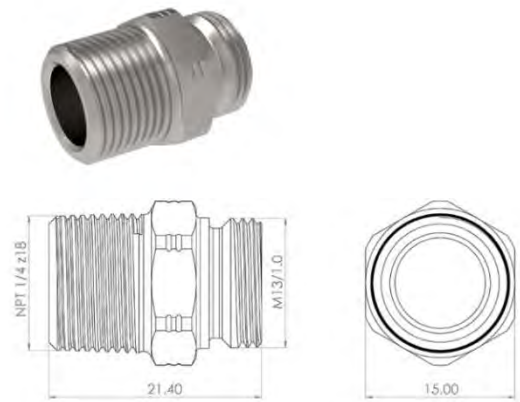
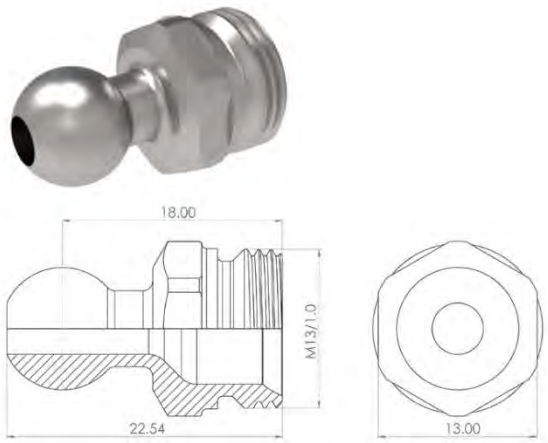


HE-IC-01-07

HE-IC-01-08



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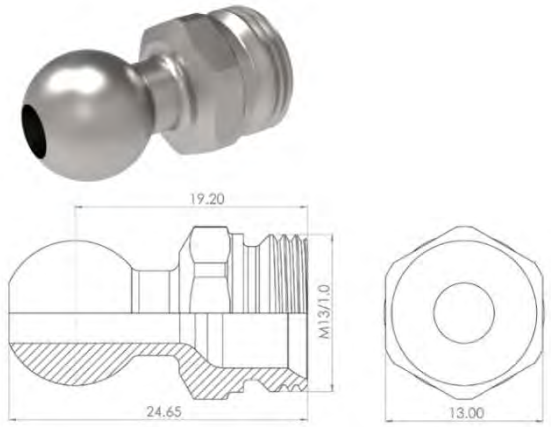

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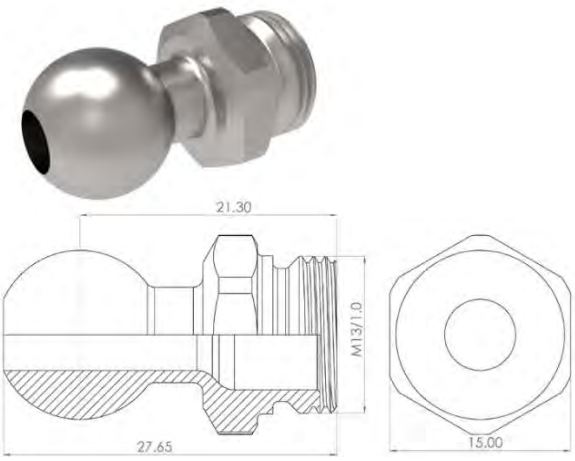

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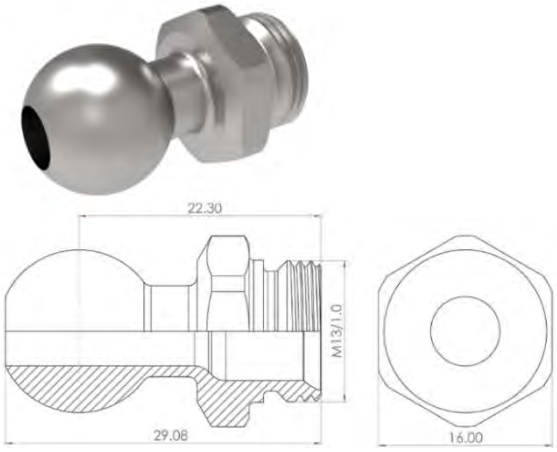

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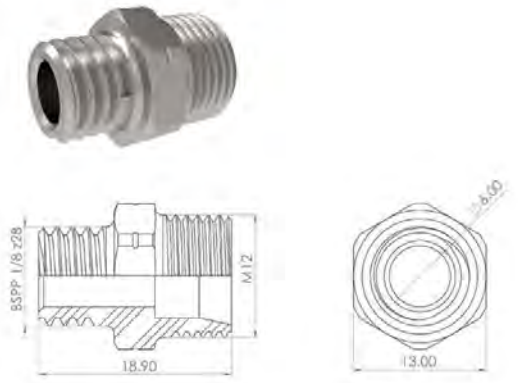
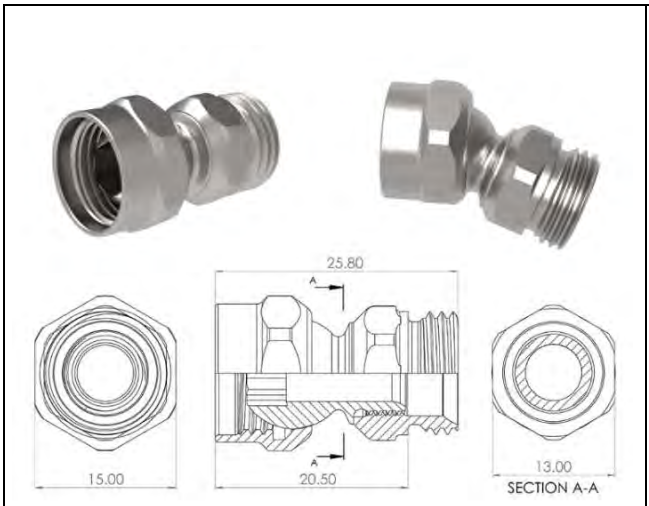


HE-IC-03-00

Articulated connection: 連結部

相互接続の基本連結部。　旋回角度 ±25º　ID:6 mm
材質:スチール

型式	内容
HE-AC-01-00	Articulated connection HECTO L:20.5 mm
HE-AC-01-01	Articulated connection HECTO L:45.5 mm
HE-AC-01-02	Articulated connection HECTO L:70.5 mm
HE-AC-01-03	Articulated connection HECTO L:95.5 mm
HE-AC-02-00	Articulated connection to 90º HECTO



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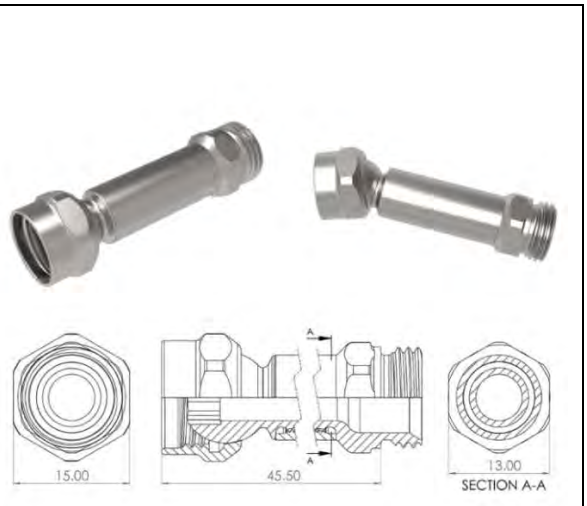

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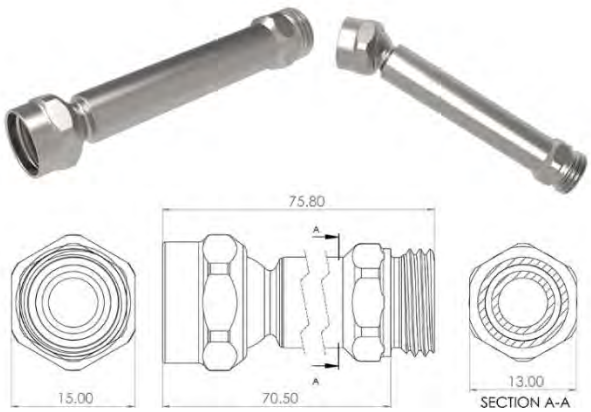

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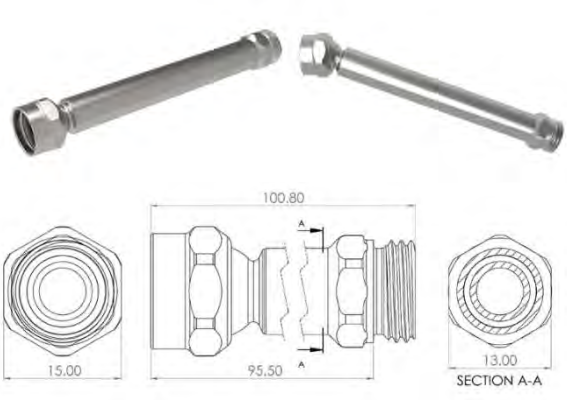

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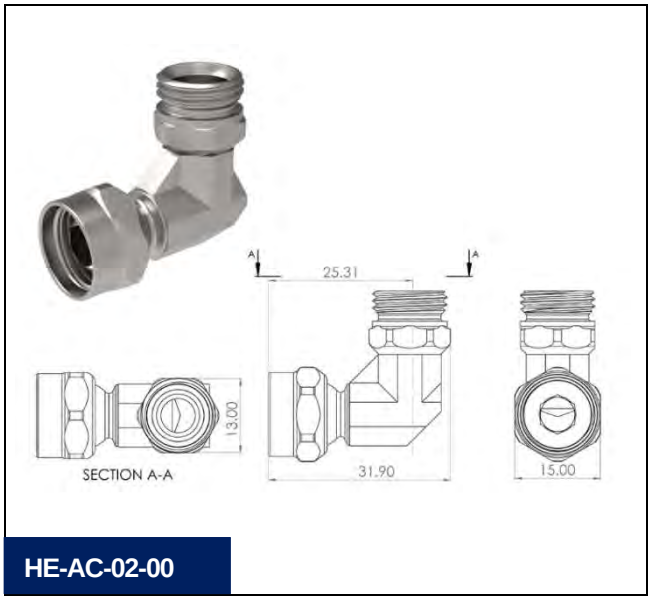
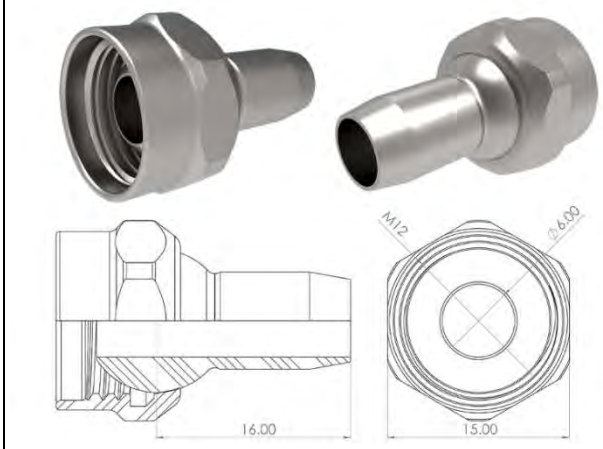


HE-AC-02-00

Coolant nozzles: ノズル

ノズルには様々な形状があり、あらゆるクーラント供給条件に対応します。
材質：スチール

型式	内容
HE-NZ-01-00	Straight nozzle. ID:6 mm & L:16 mm
HE-NZ-01-01	Straight nozzle. ID:3 mm & L:16 mm
HE-NZ-01-02	Straight nozzle. ID:2 mm & L:16 mm
HE-NZ-01-03	Straight nozzle. ID:6 mm & L:35 mm
HE-NZ-01-04	Straight nozzle. ID:3 mm & L:35 mm
HE-NZ-01-05	Straight nozzle. ID:3 mm x 3 & L:20 mm
HE-NZ-01-06	Straight nozzle coaxial. ID:3.4 x 3 & L=20 mm
HE-NZ-01-07	Straight nozzle coaxial. ID:2.7 x 5 & L=20 mm
HE-NZ-01-08	Straight nozzle. ID:1 mm & L:16 mm
HE-NZ-02-00	Nozzle 45º. ID:6 mm & L:23.5 mm
HE-NZ-02-01	Nozzle 45º simple. ID:6 mm & L:20 mm
HE-NZ-03-00	Nozzle 90º. ID:6 mm & L:20 mm
HE-NZ-03-01	Nozzle 90º. ID:3.4 mm x 3 & L:24 mm
HE-NZ-03-02	Nozzle 90º simple. ID:6 mm & L:20 mm



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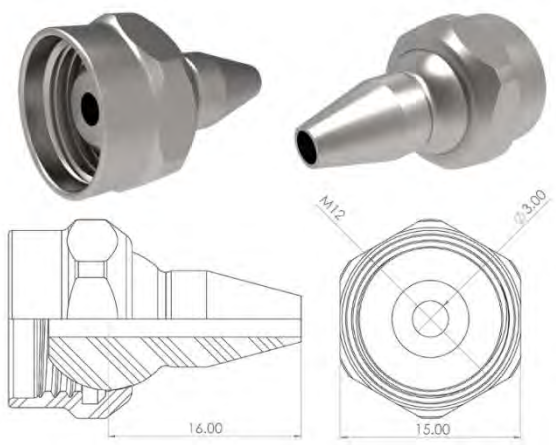

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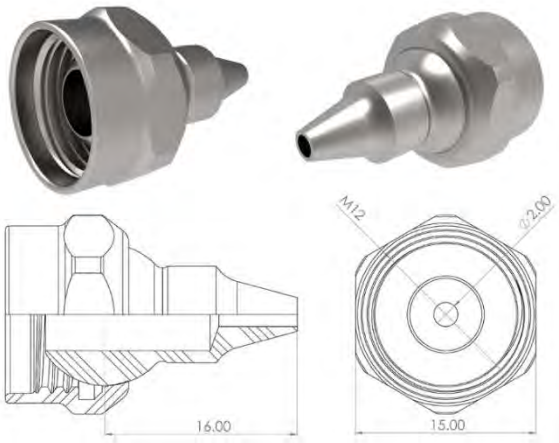

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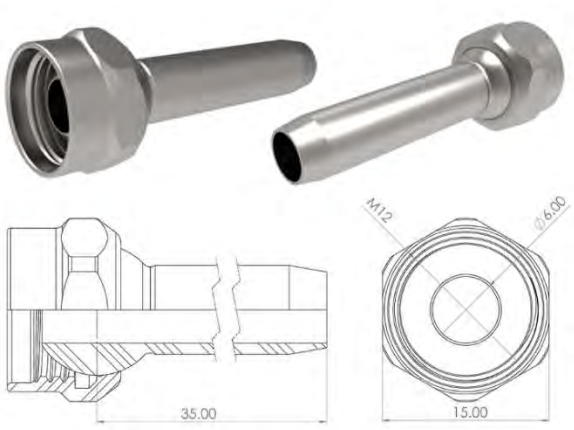

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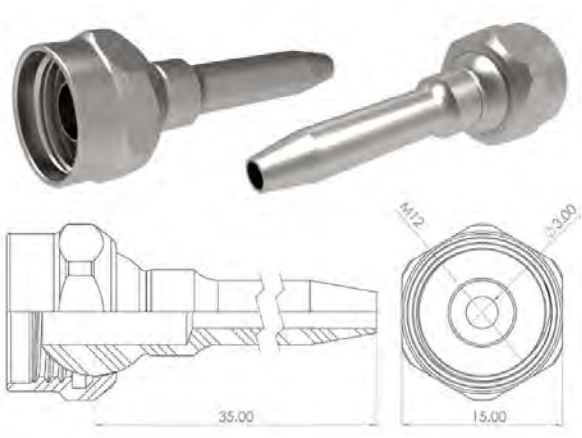
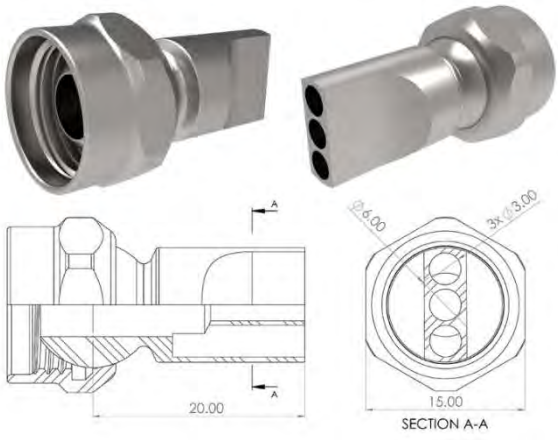


HE-NZ-01-04



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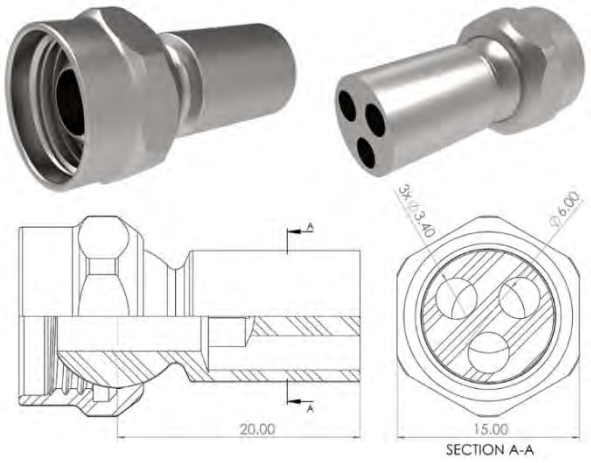
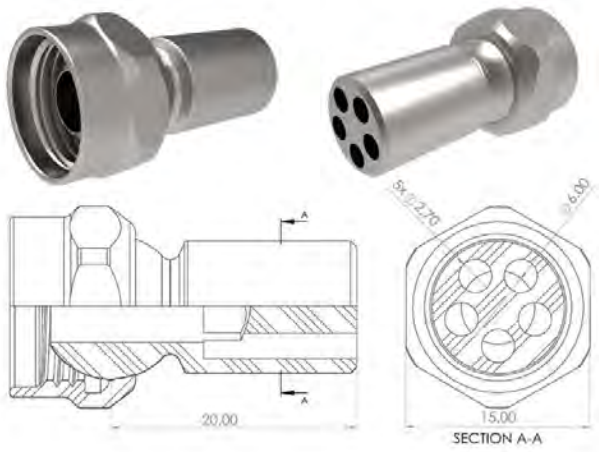
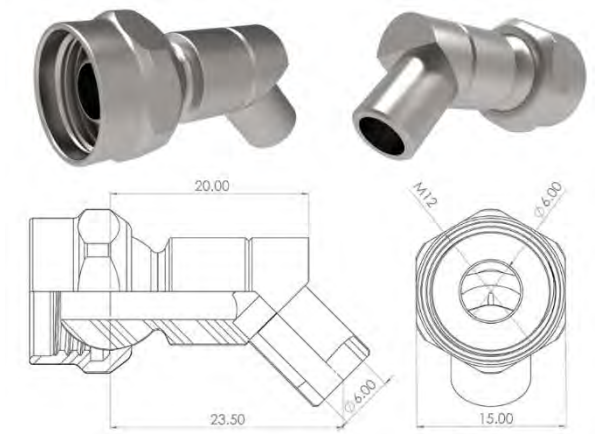


HE-NZ-01-06

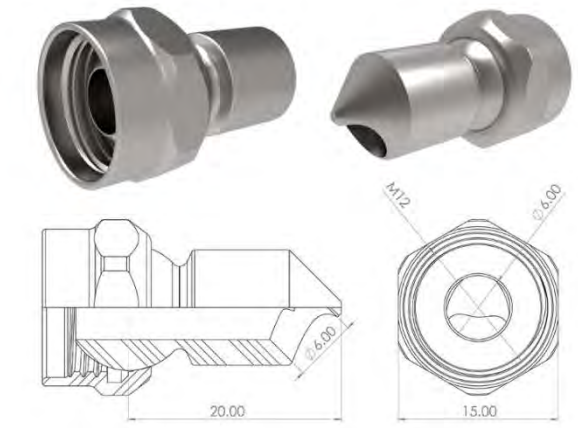


HE-NZ-01-07

HE-NZ-01-08



HE-NZ-02-00



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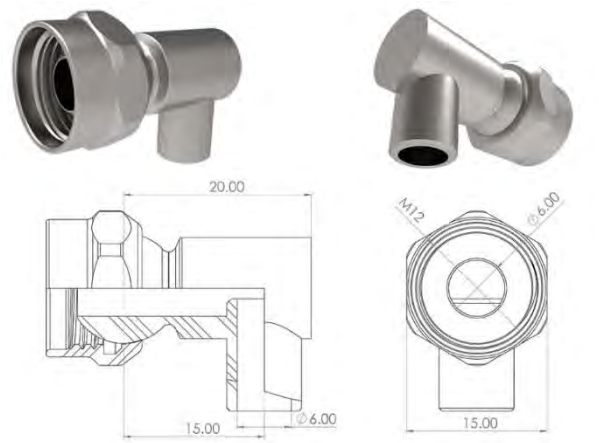
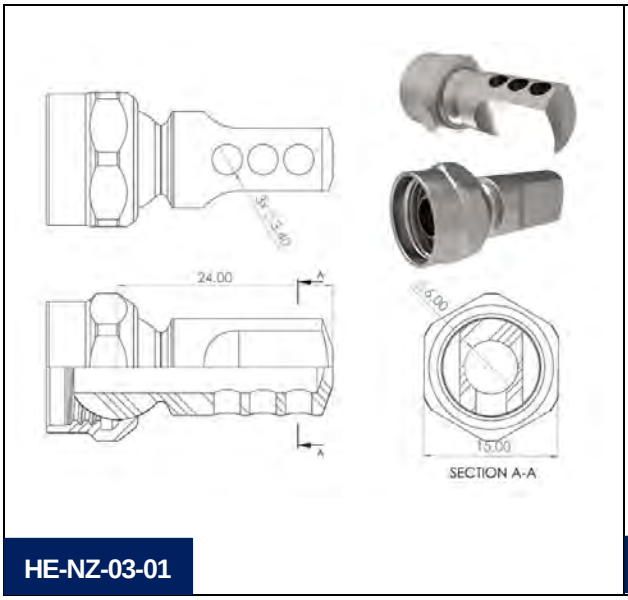


HE-NZ-03-00



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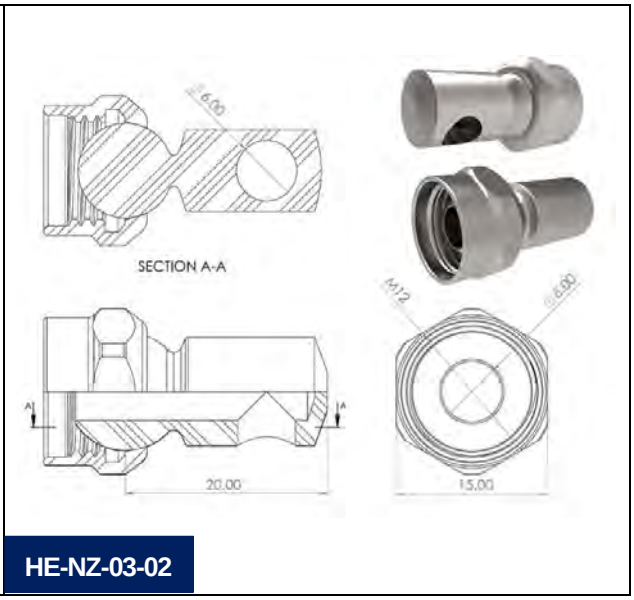


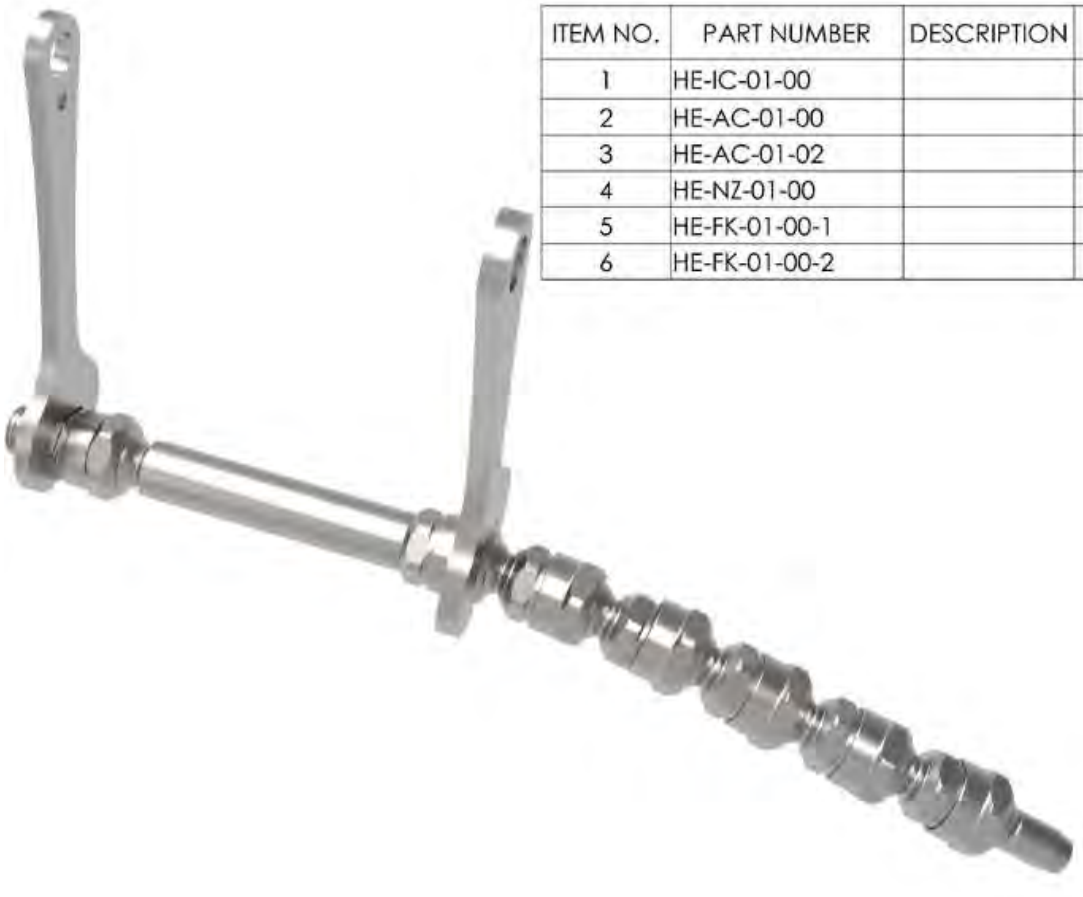
HE-NZ-03-02

Starter kit:

HECTシリーズのうち、最も汎用的なアプリケーションで構成したスターターキット。

型式	内容
HE-SK-01-00	**HECTスターターキット:** **一般的な冷却用 出力・1系統 L=220 mm.** **重量: 120 g** **機械側接続部:(ネジサイズ)** HE-IC-01-00 BSPP 1/8"M) ×1 **連結部:** HE-AC-01-00 L:20.5 mm ×5 HE-AC-01-02 L:70.5 mm ×1 **ノズル部:** HE-NZ-01-00 ストレートノズル ID:6 mm & L:16 mm ×1 **取り付け用レンチセット:** HE-FK-01-00 HECTO用。SW13 & SW15 ×1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HE-IC-01-00		1
2	HE-AC-01-00		5
3	HE-AC-01-02		1
4	HE-NZ-01-00		1
5	HE-FK-01-00-1		1
6	HE-FK-01-00-2		1



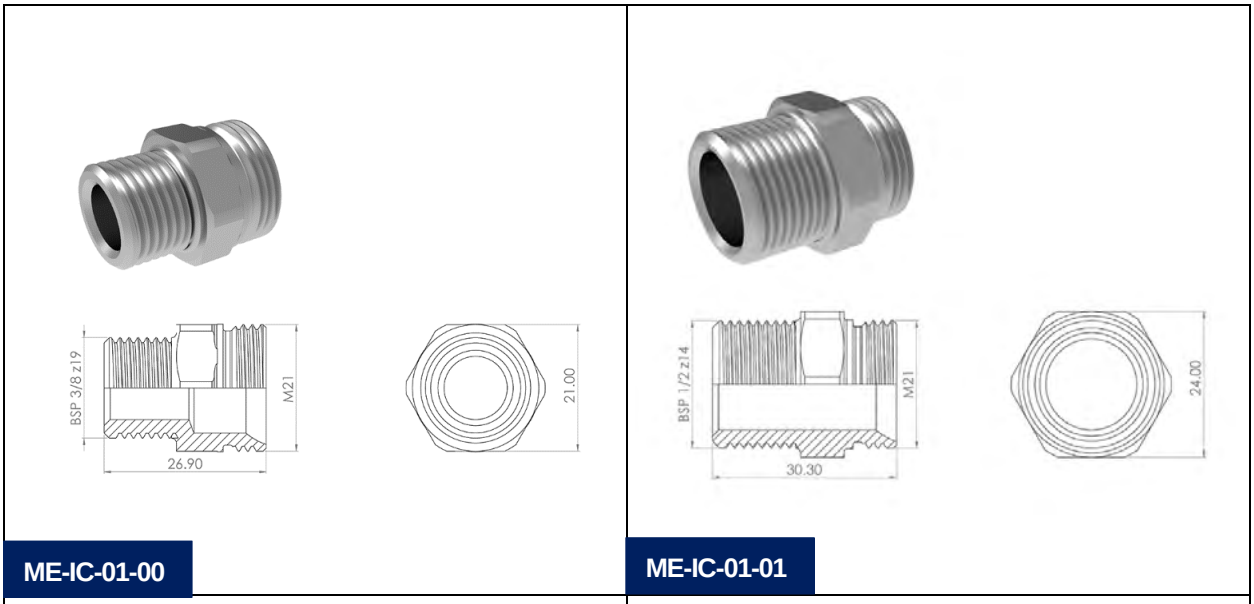
HE-SK-01-00

MEGA (10.5 mm) PROGRAM

Initial connection: 接続部

工作機械や他SCSクーラントとの接続部。 ID:10.5 mm
材質:スチール

型式	内容
ME-IC-01-00	BSPP 3/8"(M) to articulated connection MEGA.
ME-IC-01-01	BSPP 1/2"(M) to articulated connection MEGA.
ME-IC-01-02	NPT 3/8"(M) to articulated connection MEGA.
ME-IC-01-03	NPT 1/2"(M) to articulated connection MEGA.
ME-IC-01-04	BSPT 3/8"(M) to articulated connection MEGA.
ME-IC-01-05	BSPT 1/2"(M) to articulated connection MEGA.



ME-IC-01-00

ME-IC-01-01

ME-IC-01-02

ME-IC-01-03

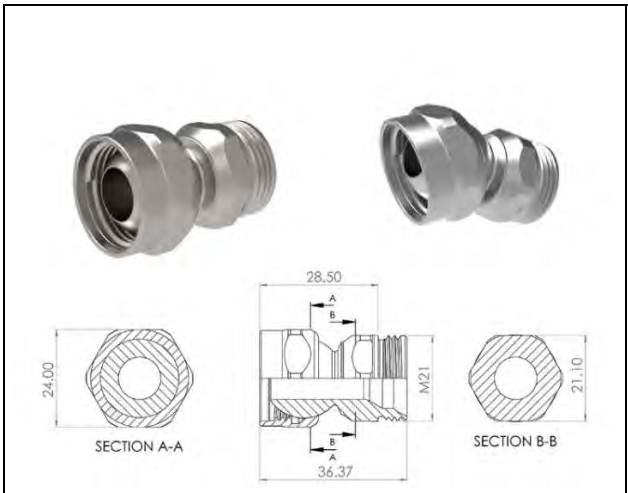
ME-IC-01-04

ME-IC-01-05

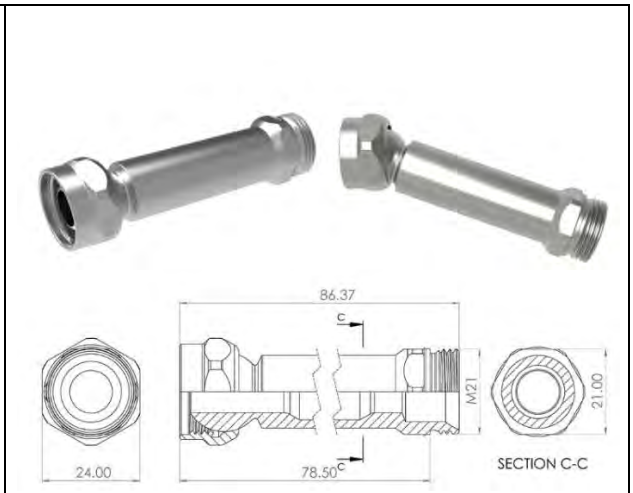
Articulated connection: 連結部

相互接続の基本連結部。　旋回角度　±25º. ID:10.5 mm. 材質:スチール

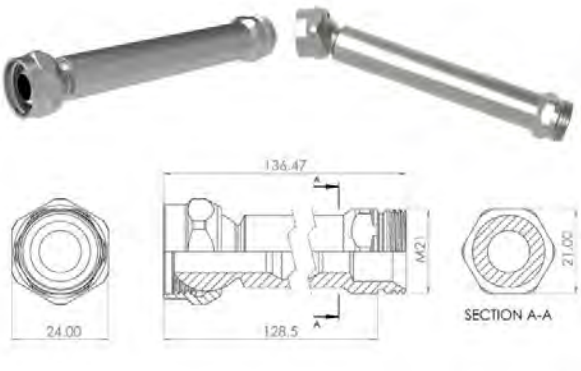
型式	内容
ME-AC-01-00	Articulated connection MEGA L:28.5 mm
ME-AC-01-01	Articulated connection MEGA L:78.5 mm
ME-AC-01-02	Articulated connection MEGA L:128.5 mm
ME-AC-01-03	Articulated connection MEGA L:178.5 mm
ME-AC-01-04	Articulated connection MEGA L:228.5 mm
ME-AC-02-00	Articulated connection to 90º MEGA



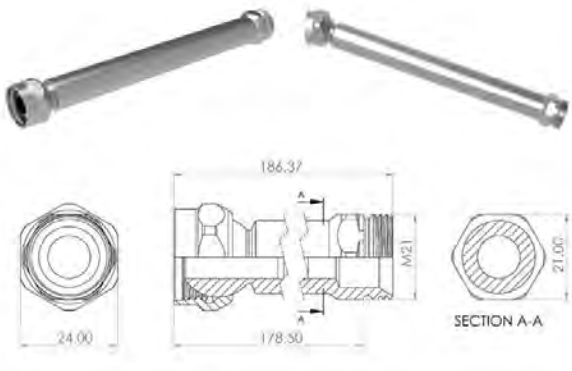
ME-AC-01-00



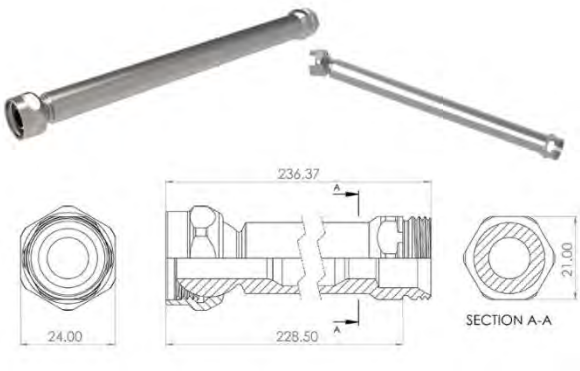
ME-AC-01-01



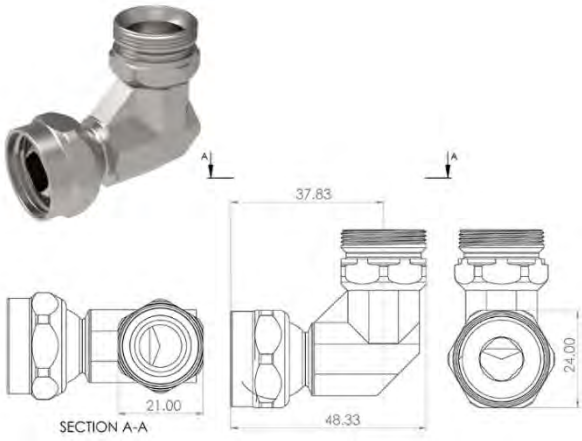
ME-AC-01-02



ME-AC-01-03



ME-AC-01-04

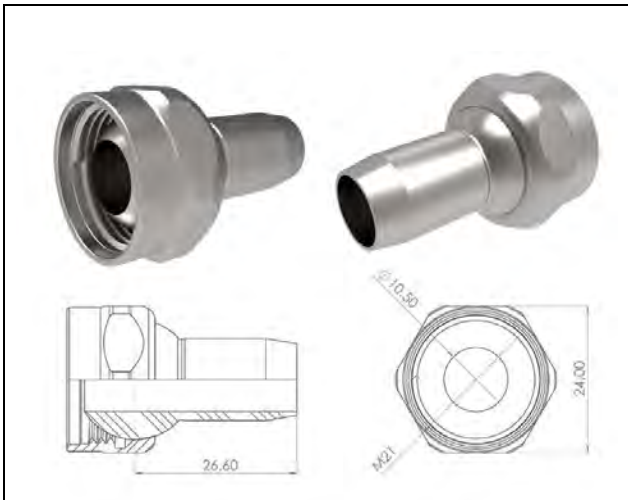


ME-AC-02-00

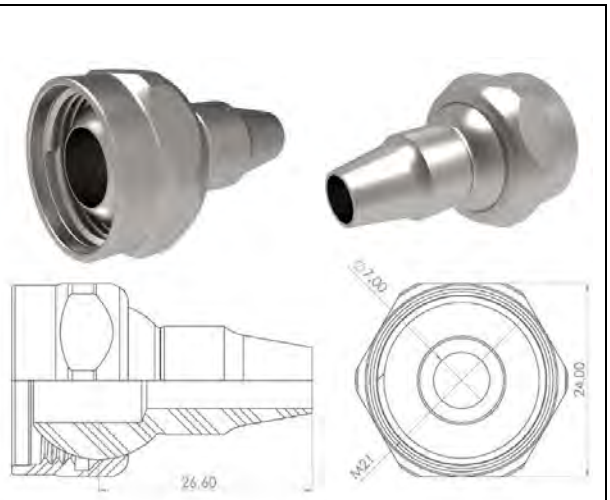
Coolant nozzles: ノズル

ノズルには様々な形状があり、あらゆるクーラント供給条件に対応します。
材質：スチール

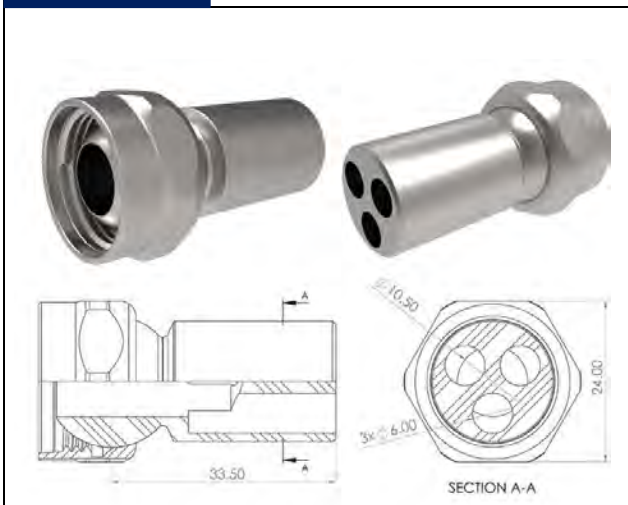
型式	内容
ME-NZ-01-00	Straight nozzle ID:10.5 mm & L:27 mm
ME-NZ-01-01	Straight nozzle ID:7 mm & L:27
ME-NZ-01-02	Straight coaxial nozzle ID:6 mm x 3 & L:34
ME-NZ-01-03	Straight coaxial nozzle ID:4.6 mm x 5 & L:34
ME-NZ-01-04	Straight nozzle ID:6 mm x2 & L:34 mm
ME-NZ-02-00	Nozzle 45º ID:10.5 mm & L:50 mm
ME-NZ-02-01	Nozzle 45º simple ID:10.5 mm & L:34 mm
ME-NZ-03-00	Nozzle 90º ID:10.5 mm & L:34 mm
ME-NZ-03-01	Nozzle 5 outlets at 90º ID:4.5 mm & L:49 mm
ME-NZ-03-02	Nozzle 90º simple ID:10.5 mm & L:34 mm
ME-NZ-04-00	Modular nozzle body W:68 mm & H:18 mm. Must be mounted with ME-NZ-04-01 or ME-NA-04-02
ME-NZ-04-01	Modular nozzle outlet 0º slot W:60 mm & H:2 mm. Must be mounted with ME-NZ-04-00



ME-NZ-01-00

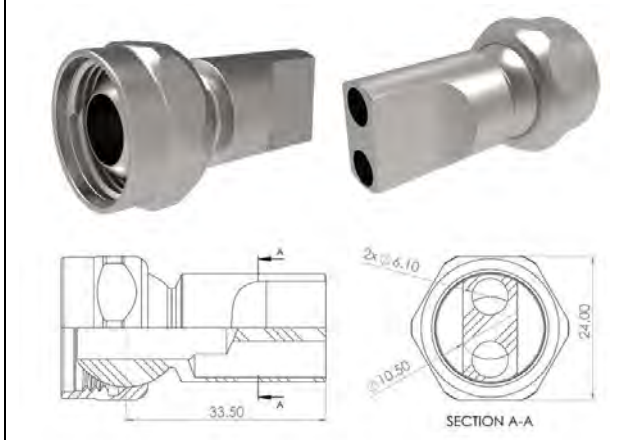


ME-NZ-01-01

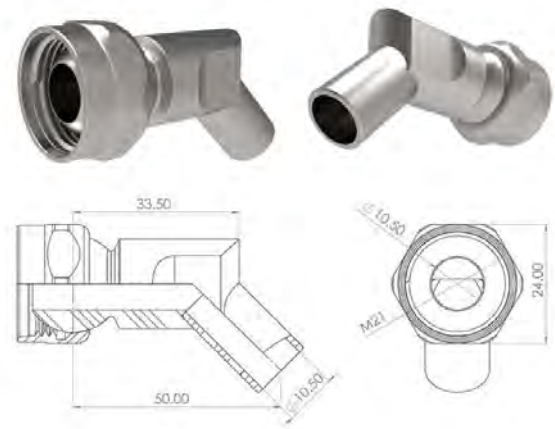


ME-NZ-01-02

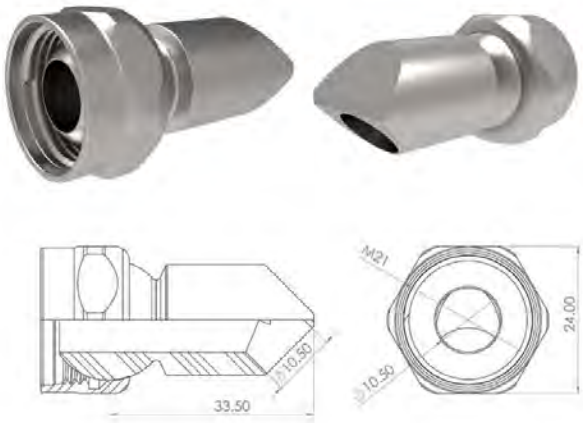
ME-NZ-01-03



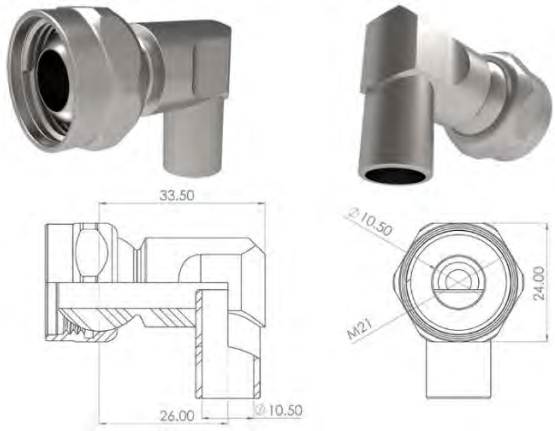
ME-NZ-01-04



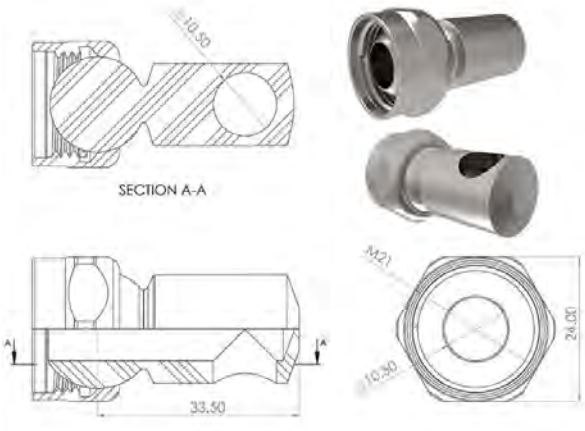
ME-NZ-02-00



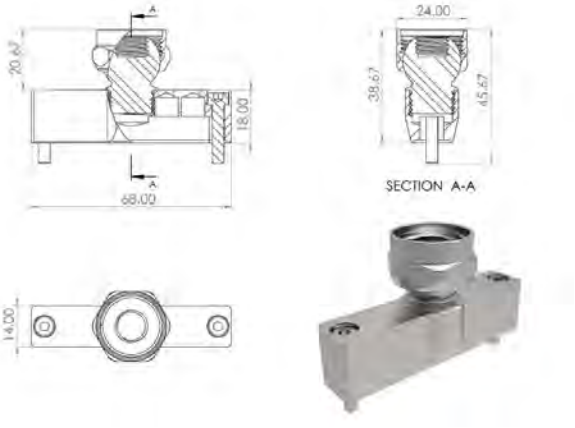
ME-NZ-02-01



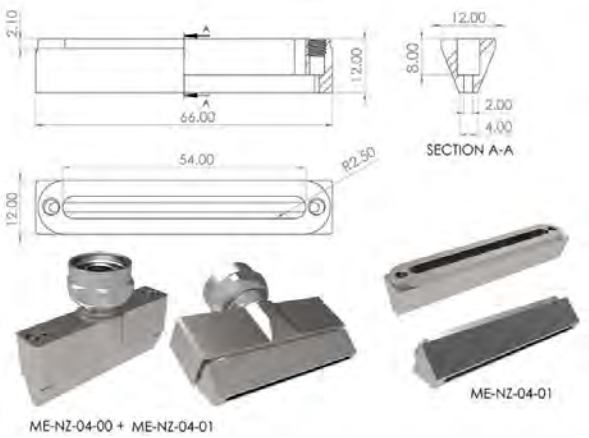
ME-NZ-03-01



ME-NZ-03-02



ME-NZ-04-00



ME-NZ-04-01

Starter kit:

MEGAシリーズのうち、最も汎用的なアプリケーションで構成したスターターキット。

型式	内容
ME-SK-01-00	**MEGAスターターキット:** **一般的な冷却用　出力・1系統　L=260 mm** **重量: 440 g** **機械側接続部(ネジサイズ):** ME-IC-01-00 BSPP 3/8”(M) ×1 **連結部:** ME-AC-01-00 L:28.5 mm ×5 ME-AC-01-01 L:78.5 mm ×1 **ノズル部:** ME-NZ-01-00 ストレートノズル ID:10.5 mm & L:27 mm ×1 **取り付け用レンチセット:** ME-FK-01-00 固定用レンチ SW21 & SW24 ×1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ME-IC-01-00		1
2	ME-AC-01-00		5
3	ME-AC-01-02		1
4	ME-NZ-01-00		1
5	ME-FK-01-00-1		1
6	ME-FK-01-00-2		1

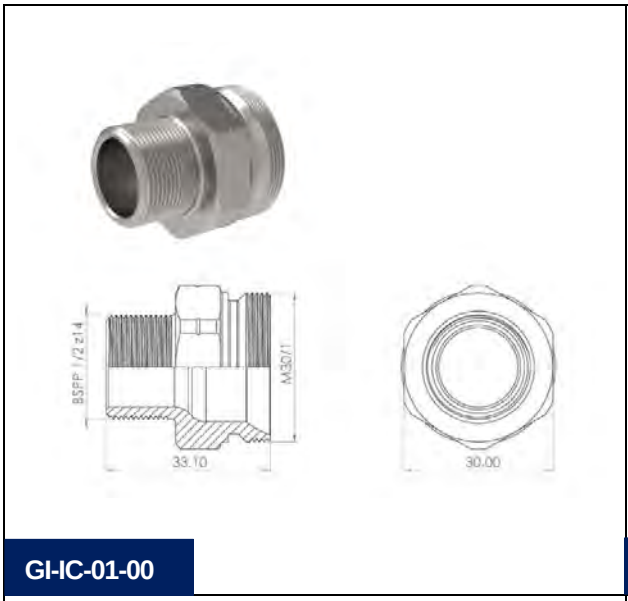
ME-SK-01-00

GIGA (16 mm) PROGRAM

Initial connection: 接続部

工作機械や他SCSクーラントとの接続部。ID:16 mm.
材質:スチール

型式	内容
GI-IC-01-00	BSPP 1/2"(M) to articulated connection GIGA.
GI-IC-01-01	BSPP 3/4"(M) to articulated connection GIGA.
GI-IC-01-02	BSPP 1"(M) to articulated connection GIGA.
GI-IC-01-03	NPT 1/2"(M) to articulated connection GIGA.
GI-IC-01-04	NPT 3/4"(M) to articulated connection GIGA.



GI-IC-01-00

GI-IC-01-01

GI-IC-01-02

GI-IC-01-03

GI-IC-01-04

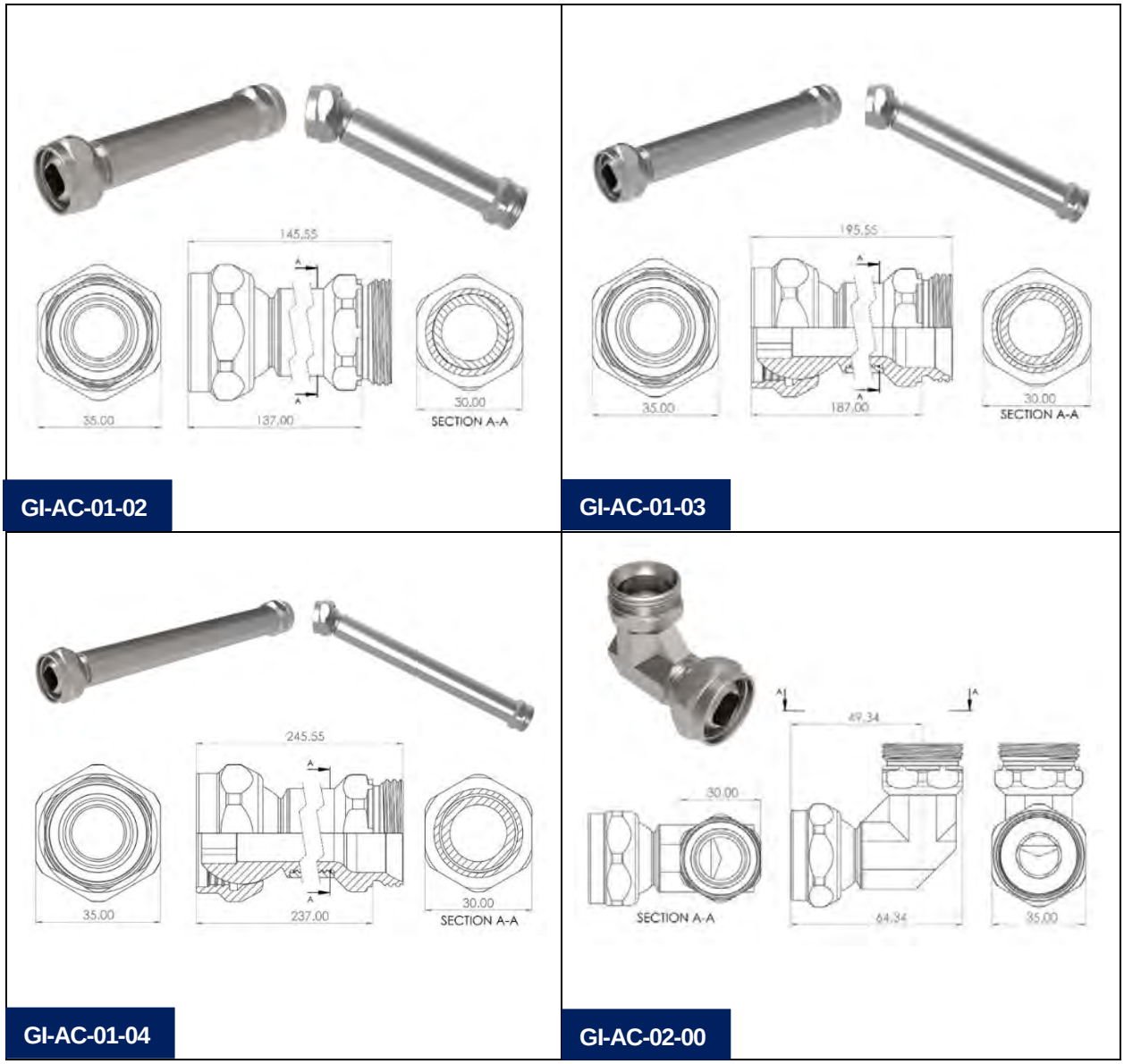
Articulated connection: 連結部

相互接続の基本連結部。 旋回角度 ±25° ID:16 mm
材質: スチール

型式	内容
GI-AC-01-00	Articulated connection GIGA L:37 mm
GI-AC-01-01	Articulated connection GIGA L:87 mm
GI-AC-01-02	Articulated connection GIGA L:137 mm
GI-AC-01-03	Articulated connection GIGA L:187 mm
GI-AC-01-04	Articulated connection GIGA L:237 mm
GI-AC-02-00	Articulated connection to 90º GIGA

GI-AC-01-00

GI-AC-01-01



GI-AC-01-02

GI-AC-01-03

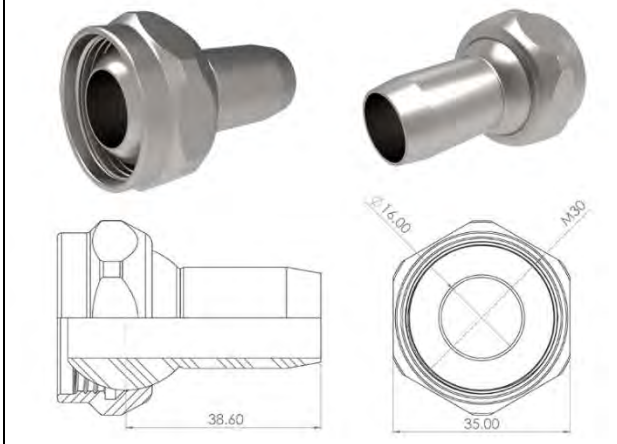
GI-AC-01-04

GI-AC-02-00

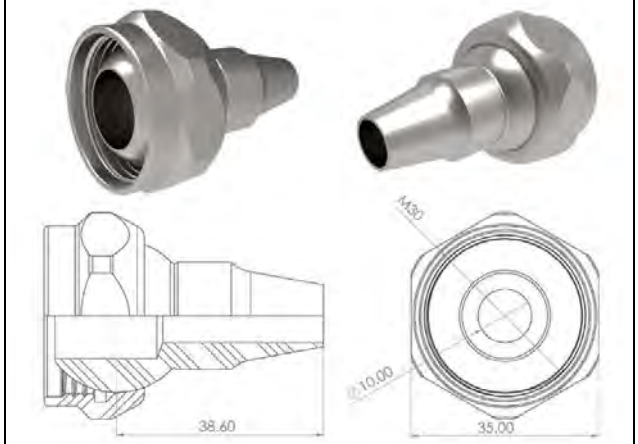
Coolant nozzles: ノズル

ノズルには様々なデザインがあり、様々なクーラント供給要件に対応します。
材質: スチール

型式	内容
GI-NZ-01-00	Straight nozzle. ID:16 mm & L:38.5 mm
GI-NZ-01-01	Straight nozzle. ID:10 mm & L:38.5
GI-NZ-02-00	Nozzle 45º. ID:16 mm & L:38.5 mm
GI-NZ-03-00	Nozzle 90º. ID:16 mm & L:38.5 mm



GI-NZ-01-00



GI-NZ-01-01

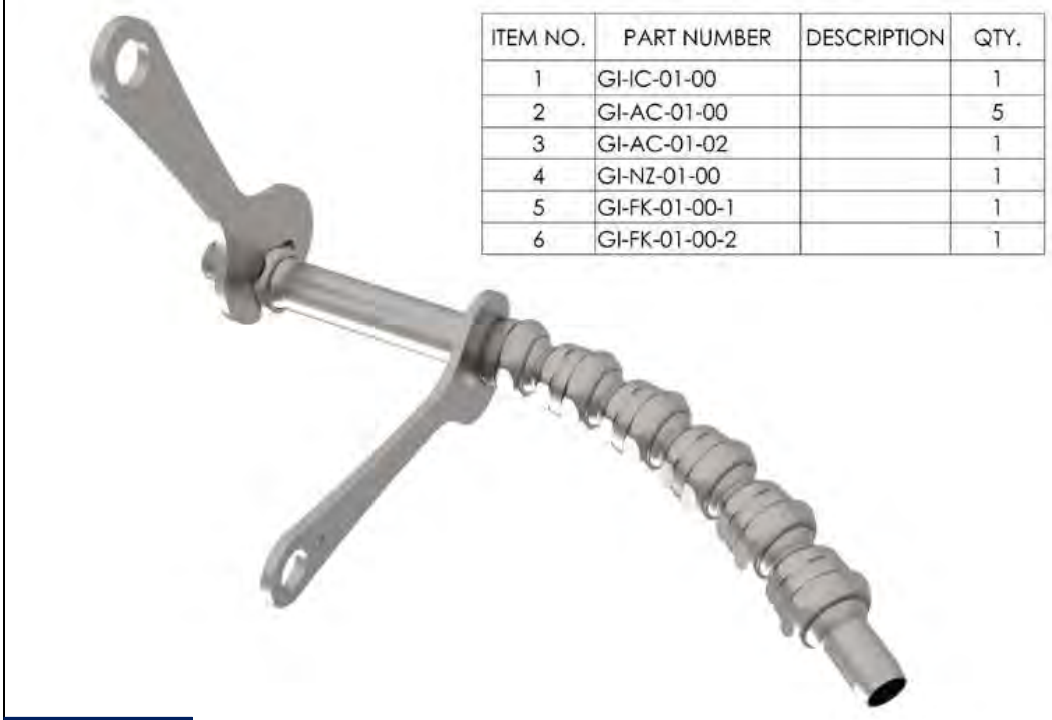
GI-NZ-02-00

GI-NZ-03-00

Starter kit:

GIGAシリーズのうち、最も汎用的なアプリケーションで構成したスターターキット。

型式	内容
GI-SK-01-00	**GIGAスターターキット:** **一般的な冷却用L=330 mm** **重量: 1160 g** **機械側接続部(ネジサイズ):** GI-IC-01-00 BSPP 1/2”(M) ×1 **連結部:** GI-AC-01-00 L:37 mm ×1 GI-AC-01-01 L:87 mm ×1 **ノズル部:** GI-NZ-01-00 ストレートノズル ID:16 mm & L:38.5 mm ×1 **取り付け用レンチセット:** GI-FK-01-00 固定用レンチ、SW30 & SW35 ×1

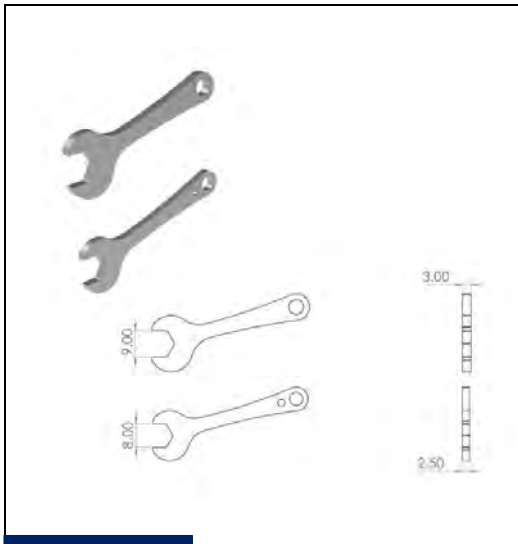


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GI-IC-01-00		1
2	GI-AC-01-00		5
3	GI-AC-01-02		1
4	GI-NZ-01-00		1
5	GI-FK-01-00-1		1
6	GI-FK-01-00-2		1

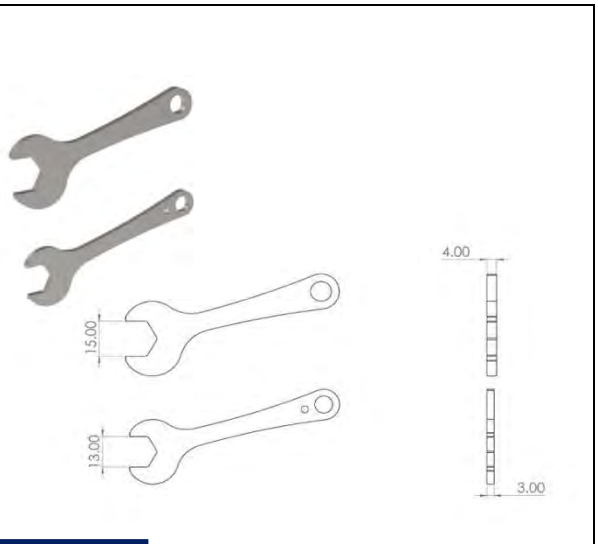
GI-SK-01-00

Fastening keys for the articulated system:取り付け用レンチ

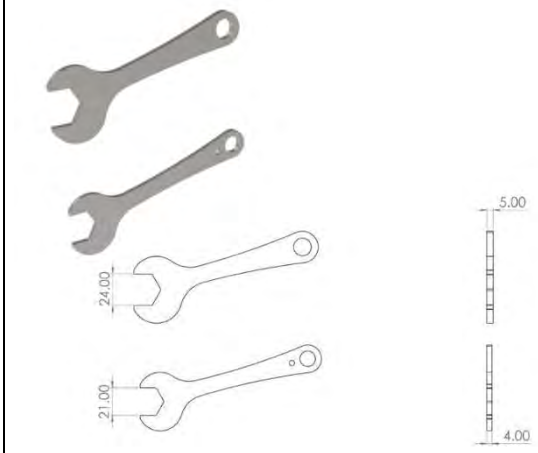
型式	内容
DE-FK-01-00	Wrenches for fastening the 2 hexagons used in the DECA program. SW8 & SW9.
HE-FK-01-00	Wrenches for fastening the 2 hexagons used in the HECTO program. SW13 & SW15.
ME-FK-01-00	Wrenches for fastening the 2 hexagons used in the MEGA program. SW21 & SW24.
GI-FK-01-00	Wrenches for fastening the 2 hexagons used in the GIGA program. SW30 & SW35.



DE-FK-01-00



HE-FK-01-00



ME-FK-01-00

GI-FK-01-00

＜販売代理店＞

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