

M V U N D E R G R O U N D



M V U N D E R G R O U N D

**SECTION**

**PAGE**

**UNDERGROUND CONNECTORS**

MF17 Series Underground Mechanical Links	01
MF15 Series Underground Mechanical Links	02
MF18 Series Underground Mechanical Links	03
HVTM3 Series Mechanical Lugs	04
HVTM1 Series Mechanical Lugs	05
MB18 Series Breeches Connector	06
MB20 Series Breeches Connector	07
CONSAC Stripping Tools	08

# MV UNDERGROUND





### MF17 SERIES MV SHEAR BOLT STRAIGHT JOINT CONNECTOR WITHOUT CENTRE BARRIER

#### APPLICATION

Straight-through jointing of polymeric insulated 11kV and 22kV cables. Suitable for either heat shrink or cold shrink type MV jointing systems.

#### CONDUCTOR TYPE

This versatile connector accommodates a vast array of conductor types, sizes and constructions in any combination;

- + aluminium or copper
- + stranded or solid
- + circular or sector shaped

#### FEATURES

- + The MF17 series bolted connectors utilise the patented "universal" range taking shear-head bolts. The bolts shear off at varying heights depending on the conductor size leaving a smooth and regular profile to the connector with no protuberances.
- + The internally splined contact bolt and special bolt driver (JTS/16) ensures the correct shear torque and position is achieved every time, eliminating the chances of premature operation.
- + The unique multi-position shear bolt is designed to apply increasing contact force with increasing conductor size.
- + Supplied complete with cable core stripping guides.
- + Supplied with brass gauze for the jointing of copper conductor.

When using these connectors in MV cable joints, it is essential that the jointing system supplier's instructions for stress relieving and re-insulation techniques be strictly adhered to.

Packed individually in sealed plastic bags

Product Number	Conductor Size Range (mm <sup>2</sup> )	Overall Length (mm)	Connector Diameter (mm)	Bolt Size	Pack Size
Application range for <b>STRANDED SECTOR</b> shaped conductors					
MF17/1	10* to 95	90	28.5	M16	1
MF17/2	16 to 95	100	32.0	M16	1
MF17/3	70 to 300	110	35.0	M18	1
MF17/4	185 to 300	110	41.0	M18	1
Application range for <b>SOLID SECTOR</b> shaped conductors					
MF17/1	10 to 70	90	28.5	M16	1
MF17/2	16 to 150	100	32.0	M16	1
MF17/3	70 to 240	110	35.0	M18	1
MF17/4	185 to 300	110	41.0	M18	1
Application range for <b>STRANDED CIRCULAR</b> conductors					
MF17/1	10* to 95	90	28.5	M16	1
MF17/2	16 to 185	100	32.0	M16	1
MF17/3	70 to 300	110	35.0	M18	1
MF17/4	185 to 300	110	41.0	M18	1
Application range for <b>SOLID CIRCULAR</b> conductors					
MF17/1	10 to 70	90	28.5	M16	1
MF17/2	16 to 150	100	32.0	M16	1
MF17/3	70 to 240	110	35.0	M18	1
MF17/4	185 to 300	110	41.0	M18	1
*Conductor cores 10 sq mm and below should be doubled to achieve necessary cross sectional area.					

Required tool for all products:  
JTS/16 Splined socket



Recommended tool for all products:  
RPS13/17-6H or RPS13/17-6SH



Products also suitable for installation with  
battery powered impact drivers. Refer to page XX



**MF15 SERIES  
MV SHEAR BOLT STRAIGHT JOINT CONNECTOR  
WITH CENTRE BARRIER**

**APPLICATION**

Straight-through jointing of oil impregnated paper and polymeric insulated 11kV and 22kV cables. Suitable for either heat shrink or cold shrink type MV jointing systems.

**CONDUCTOR TYPES**

This versatile connector accommodates a vast array of conductor types, sizes and constructions in any combination;  
 + aluminium or copper  
 + stranded or solid  
 + circular or sector shaped

**FEATURES**

- + Integral moisture or contaminate barrier
- + The MF15 series bolted connectors utilise the patented "universal" range taking shear-head bolts. The bolts shear off at varying heights depending on the conductor size leaving a smooth and regular profile to the connector with no protuberances.
- + The internally splined contact bolt and special bolt driver (**JTS/16**) ensures the correct shear torque and position is achieved every time, eliminating the chances of premature operation.
- + The unique multi-position shear bolt is designed to apply increasing contact force with increasing conductor size.
- + Supplied complete with cable core stripping guides.
- + Supplied with brass gauze for the jointing of copper conductor.

When using these connectors in MV cable joints, it is essential that the jointing system supplier's instructions for stress relieving and reinsulation techniques be strictly adhered to.

Packed individually in sealed plastic bags.

Product Number	Conductor Size Range (mm <sup>2</sup> )	Overall Length (mm)	Connector Diameter (mm)	Bolt Size	Pack Size
Application range for <b>STRANDED SECTOR</b> shaped conductors					
MF15/1	16 to 120	95	28.5	M16	1
MF15/2	16 to 185	105	32.0	M16	1
MF15/3	70 to 300	115	37.5	M18	1
Application range for <b>SOLID SECTOR</b> shaped conductors					
MF15/1	16 to 95	95	28.5	M16	1
MF15/2	16 to 150	105	32.0	M16	1
MF15/3	70 to 240	115	37.5	M18	1
Application range for <b>STRANDED CIRCULAR</b> conductors					
MF15/1	16 to 120	95	28.5	M16	1
MF15/2	16 to 185	105	32.0	M16	1
MF15/3	70 to 300	115	37.5	M18	1
MF15/EDF	95 to 240	105	32.0	M16	1
Application range for <b>SOLID CIRCULAR</b> conductors					
MF15/1	16 to 95	95	28.5	M16	1
MF15/2	16 to 150	105	32.0	M16	1
MF15/3	70 to 240	115	37.5	M18	1

Required tool for all products:  
JTS/16 Splined socket

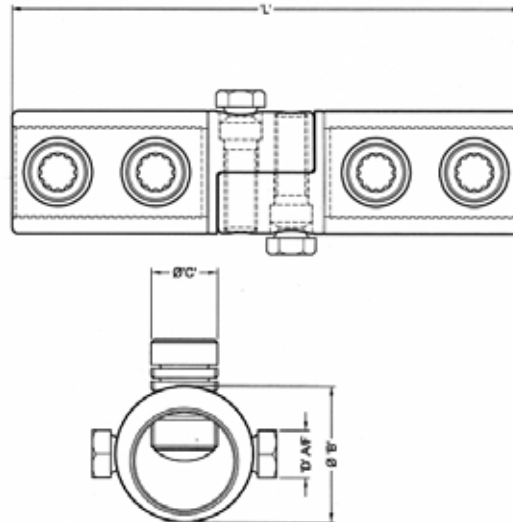


Recommended tool for all products:  
RPS13/17-6H or RPS13/17-6SH



Products also suitable for installation with battery powered impact drivers. Refer to page XX

## SHEAR BOLT STRAIGHT JOINT LAP CONNECTORS



### MF18 SERIES MV SHEAR BOLT STRAIGHT JOINT SPLIT LAP CONNECTOR

#### APPLICATION

Straight-through jointing of oil impregnated paper and polymeric insulated 11kV and 22kV cables. Suitable for either heat shrink or cold shrink type MV jointing systems.

#### CONDUCTOR TYPE

This versatile connector accommodates a vast array of conductor types, sizes and constructions in any combination;

- + aluminium or copper
- + stranded or solid
- + circular or sector shaped

#### FEATURES

- + Split Lap type connector to eliminate the need to bend cable cores during jointing
- + Integral moisture or contaminate barrier
- + The MF18 series bolted connectors utilise the patented "universal" range taking shear-head bolts. The bolts shear off at varying heights depending on the conductor size leaving a smooth and regular profile to the connector with no protuberances.
- + The internally splined contact bolt and special bolt driver (JTS/16) ensures the correct shear torque and position is achieved every time, eliminating the chances of premature operation.
- + The unique multi-position shear bolt is designed to apply increasing contact force with increasing conductor size.
- + Supplied complete with cable core stripping guides.
- + Supplied with brass gauze for the jointing of copper conductor.

When using these connectors in MV cable joints, it is essential that the jointing system supplier's instructions for stress relieving and re-insulation techniques be strictly adhered to.

Packed individually in sealed plastic bags.

#### TEST SPECIFICATIONS

ER C79, AS/NZS 4325.1 (IEC 61238-1)

Product Number	Conductor Size Range (mm <sup>2</sup> )	Overall Length (L) (mm)	Diameter (ØB) (mm)	Bolt Size (ØC)	Pack Size
Application range for <b>STRANDED SECTOR</b> shaped conductors					
MF18/1	10* to 95	129.5	28.5	M16	1
MF18/2	16 to 185	130.5	32.0	M18	1
MF18/3	70 to 300	155.5	37.5	M18	1
Application range for <b>SOLID SECTOR</b> shaped conductors					
MF18/1	10 to 70	129.5	28.5	M16	1
MF18/2	16 to 150	130.5	32.0	M18	1
MF18/3	70 to 240	155.5	37.5	M18	1
Application range for <b>STRANDED CIRCULAR</b> conductors					
MF18/1	10* to 95	129.5	28.5	M16	1
MF18/2	16 to 185	130.5	32.0	M18	1
MF18/3	70 to 300	155.5	37.5	M18	1
Application range for <b>SOLID CIRCULAR</b> conductors					
MF18/1	10 to 185	129.5	28.5	M16	1
MF18/2	16 to 300	130.5	32.0	M18	1
MF18/3	70 to 400	155.5	37.5	M18	1

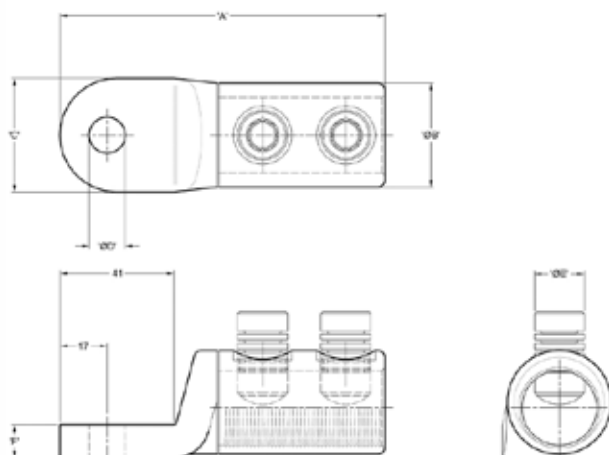
Required tool for all products:  
JTS/16 Splined socket



Recommended tool for all products:  
RPS13/17-6H or RPS13/17-6SH



TECHNICAL GUIDELINES & INFORMATION, page 02.  
Products also suitable for installation with  
battery powered impact drivers. Refer to page XX



**HVTM3 SERIES  
ALUMINIUM OFFSET PALM, SINGLE HOLE  
TERMINAL LUGS**

**APPLICATION**

Termination of oil impregnated paper and polymeric insulated 11kV and 22kV cables. Suitable for either heat shrink or cold shrink type MV termination systems.

**CONDUCTOR TYPES**

This versatile connector accommodates a vast array of conductor types, sizes and constructions in any combination;

- + aluminium or copper
- + stranded or solid
- + circular or sector shaped

**FEATURES**

- + Integral moisture or contaminate barrier
- + The HVTM series of bolted terminal lugs utilise the patented "universal" range taking shear-head bolts. The bolts shear off at varying heights depending on the conductor size leaving a smooth and regular profile to the connector with no protuberances.
- + The internally splined contact bolt and special bolt driver (JTS/16) ensures the correct shear torque and position is achieved every time, eliminating the chances of premature operation.
- + The unique multi-position shear bolt is designed to apply increasing contact force with increasing conductor size.
- + Supplied complete with cable core stripping guides.
- + Supplied with brass gauze for the jointing of copper conductor.

When using these connectors in MV cable terminations, it is essential that the termination system supplier's instructions for stress relieving and re-insulation techniques be strictly adhered to.

Packed individually in sealed plastic bags.

Product Number <sup>1</sup>	Conductor Size Range (mm <sup>2</sup> )	Overall Length A (mm)	Diameter OB (mm)	Palm Width C (mm)
Application range for <b>STRANDED SECTOR</b> shaped conductors				
HVTM 3/1-x	16 to 120	104	28.5	41
HVTM 3/2-x	16 to 185	108	32.0	41
HVTM 3/3-x	70 to 300	117	37.5	41
Application range for <b>SOLID SECTOR</b> shaped conductors				
HVTM 3/1-x	16 to 95	104	28.5	41
HVTM 3/2-x	16 to 150	108	32.0	41
HVTM 3/3-x	70 to 240	117	37.5	41
Application range for <b>STRANDED CIRCULAR</b> conductors				
HVTM 3/1-x	16 to 120	104	28.5	41
HVTM 3/2-x	16 to 185	108	32.0	41
HVTM 3/3-x	70 to 300	117	37.5	41
Application range for <b>SOLID CIRCULAR</b> conductors				
HVTM 3/1-x	16 to 185	104	28.5	41
HVTM 3/2-x	16 to 300	108	32.0	41
HVTM 3/3-x	70 to 400	117	37.5	41

1. Palm hole size must be nominated x=12 for M12 hole, x=16 for M16 hole.
2. Palm thickness is 10mm for all products
3. Palm width is equal to connector diameter ØB
4. All terminal lugs are manufactured from aluminium alloy. Brass alloy connectors are also available and are specified with a 'B' suffix to the product number.
5. Extended palm length, two hole terminal lugs are also available.

**Required tool for all products:  
JTS/16 Splined socket**

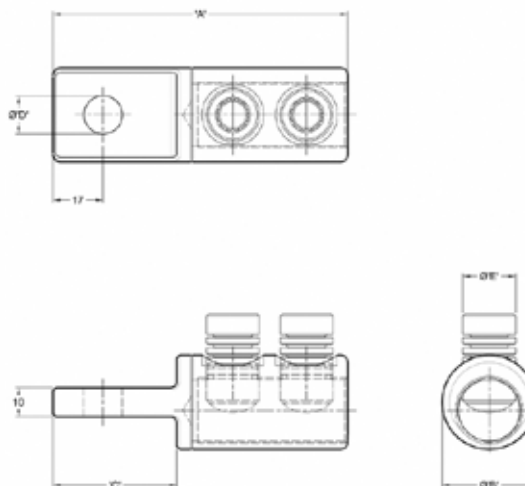


**Recommended tool for all products:  
RPS13/17-6H or RPS13/17-6SH**



Products also suitable for installation with battery powered impact drivers. Refer to section: **TECHNICAL GUIDELINES & INFORMATION, page 02.**

## MECHANICAL TERMINAL LUGS



### HVTM1 SERIES ALUMINIUM CENTRE PALM, SINGLE HOLE TERMINAL LUGS

#### APPLICATION

Termination of oil impregnated paper and polymeric insulated 11kV and 22kV cables. Suitable for either heat shrink or cold shrink type MV termination systems.

#### CONDUCTOR TYPE

This versatile connector accommodates a vast array of conductor types, sizes and constructions in any combination;

- + aluminium or copper
- + stranded or solid
- + circular or sector shaped

#### FEATURES

- + Integral moisture or contaminate barrier
- + The HVTM series of bolted terminal lugs utilise the patented "universal" range taking shear-head bolts. The bolts shear off at varying heights depending on the conductor size leaving a smooth and regular profile to the connector with no protuberances.
- + The internally splined contact bolt and special bolt driver (JTS/16) ensures the correct shear torque and position is achieved every time, eliminating the chances of premature operation.
- + The unique multi-position shear bolt is designed to apply increasing contact force with increasing conductor size.
- + Supplied complete with cable core stripping guides.
- + Supplied with brass gauze for the jointing of copper conductor.

When using these connectors in MV cable terminations, it is essential that the termination system supplier's instructions for stress relieving and re-insulation techniques be strictly adhered to.

Packed individually in sealed plastic bags.

#### TEST SPECIFICATIONS

ER C79, AS/NZS 4325.1 (IEC 61238-1)

Product Number <sup>1</sup>	Conductor Size Range (mm <sup>2</sup> )	Overall Length A (mm)	Diameter ØB (mm)	Palm Width C (mm)
Application range for <b>STRANDED SECTOR</b> shaped conductors				
HVTM 1/1-x	16 to 120	98	28.5	42
HVTM 1/2-x	16 to 185	100	32.0	42
HVTM 1/3-x	70 to 300	107	37.5	42
Application range for <b>SOLID SECTOR</b> shaped conductors				
HVTM 1/1-x	16 to 95	98	28.5	42
HVTM 1/2-x	16 to 150	100	32.0	42
HVTM 1/3-x	70 to 240	107	37.5	42
Application range for <b>STRANDED CIRCULAR</b> conductors				
HVTM 1/1-x	16 to 120	98	28.5	42
HVTM 1/2-x	16 to 185	100	32.0	42
HVTM 1/3-x	70 to 300	107	37.5	42
Application range for <b>SOLID CIRCULAR</b> conductors				
HVTM 1/1-x	16 to 185	98	28.5	42
HVTM 1/2-x	16 to 300	100	32.0	42
HVTM 1/3-x	70 to 400	107	37.5	42

1. Palm hole size must be nominated x=12 for M12 hole, x=16 for M16 hole.
2. Palm thickness is 10mm for all products
3. Palm width is equal to connector diameter ØB
4. All terminal lugs are manufactured from aluminium alloy. Brass alloy connectors are also available and are specified with a 'B' suffix to the product number.
5. Extended palm length, two hole terminal lugs are also available.

Required tool for all products:  
JTS/16 Splined socket

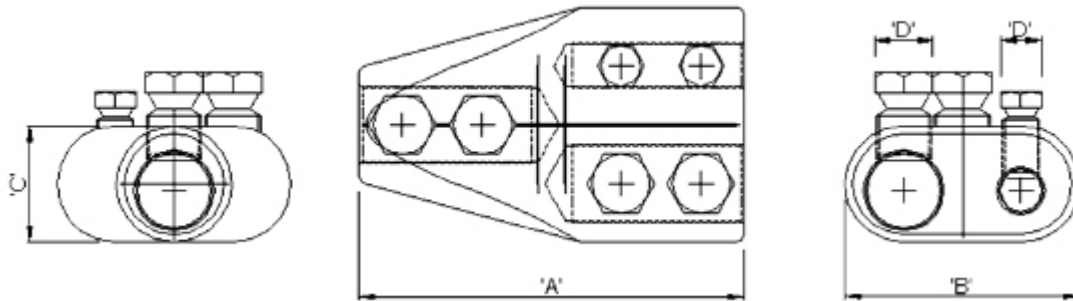


Recommended tool for all products:  
RPS13/17-6H or RPS13/17-6SH



TECHNICAL GUIDELINES & INFORMATION, page 02.  
Products also suitable for installation with  
battery powered impact drivers. Refer to page XX





**MB 18 SERIES  
MV SHEAR BOLT BREECHES JOINT  
CONNECTOR**

**APPLICATION**

Breeches jointing of oil impregnated paper and polymeric insulated 11kV and 22kV cables. Suitable for either heat shrink or cold shrink type MV jointing systems.

**CONDUCTOR TYPES**

This versatile connector accommodates a large range of circular conductor types, sizes and constructions in any combination;  
+ aluminium or copper  
+ stranded or solid

**FEATURES**

- + Proven technology torque control (shearhead) contact bolts
- + Integral moisture or contaminate barrier
- + Supplied complete with cable core stripping guides.
- + Supplied with brass gauze for the jointing of copper conductor.

When using these connectors in MV cable joints, it is essential that the jointing system supplier's instructions for stress relieving and re-insulation techniques be strictly adhered to.

Packed individually in sealed plastic bags.

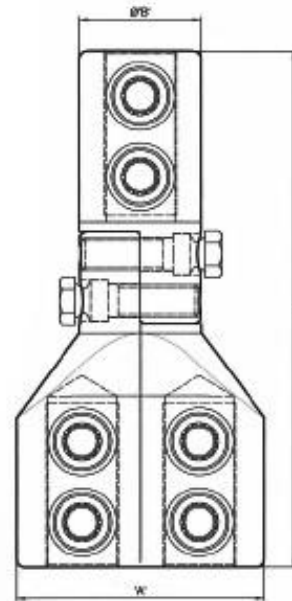
Product Number	Stranded Conductor Size Range (mm <sup>2</sup> )		Dimensions (mm)		
	Main (Min to Max)	Branch (Min to Max)	A	B	C
MB18/1	35 to 95	35 to 95	116	61	30.5
MB18/2	95 to 150	35 to 95	116	61	30.5
MB18/3	95 to 150	95 to 150	116	61	30.5
MB18/EDF	95 to 240	95 to 240	116	61	30.2
MB18/4	185 to 240	35 to 95	125	76	37.5
MB18/5	185 to 240	185 to 240	125	76	37.5
MB18/6	185 to 240	95 to 150	125	76	37.5
MB18/7		95 to 150	125	76	37.5
MB18/8		35 to 95	116	61	30.5

Recommended tool for all products:  
RPS13/17-6H or RPS13/17-6SH



Products also suitable for installation with battery powered impact drivers. Refer to section: TECHNICAL GUIDELINES & INFORMATION, page 02.

## SHEAR BOLT BREECHES JOINT CONNECTORS



### MB 20 SERIES MV SHEAR BOLT BREECHES JOINT SPLIT LAP CONNECTOR

#### APPLICATION

Breeches jointing of oil impregnated paper and polymeric insulated 11kV and 22kV cables. Suitable for either heat shrink or cold shrink type MV jointing systems.

#### CONDUCTOR TYPE

This versatile connector accommodates a vast array of conductor types, sizes and constructions in any combination;

- + aluminium or copper
- + stranded or solid
- + circular or sector shaped

#### FEATURES

- + Integral moisture or contaminate barrier
- + Split Lap type connector to eliminate the need to bend cable cores during jointing
- + The MB20 series bolted connectors utilise the patented "universal" range taking shear-head bolts. The bolts shear off at varying heights depending on the conductor size leaving a smooth and regular profile to the connector with no protuberances.
- + The internally splined contact bolt and special bolt driver (JTS/16) ensures the correct shear torque and position is achieved every time, eliminating the chances of premature operation.
- + The unique multi-position shear bolt is designed to apply increasing contact force with increasing conductor size.
- + Supplied complete with cable core stripping guides.
- + Supplied with brass gauze for the jointing of copper conductor.

When using these connectors in MV cable joints, it is essential that the jointing system supplier's instructions for stress relieving and re-insulation techniques be strictly adhered to.

Packed individually in sealed plastic bags

Product Number	Main Conductor Size Range (mm <sup>2</sup> ) (Min to Max)	Branch Conductor Size Range (mm <sup>2</sup> ) (Min to Max)	Diameter ØB (mm)	Width A (mm)	Length L (mm)
Application range for <b>STRANDED SECTOR</b> shaped conductors					
MB20/1	10 to 95	10 to 95	28.0	55.0	145.5
MB20/2	16 to 185	16 to 185	32.0	62.0	148.5
MB20/3	70 to 300	70 to 300	37.5	76.0	166.5
MB20/5	16 to 185	16 to 185	37.5	76.0	160.0
Application range for <b>SOLID SECTOR</b> shaped conductors					
MB20/1	10 to 70	10 to 70	28.0	55.0	145.5
MB20/2	16 to 150	16 to 150	32.0	62.0	148.5
MB20/3	70 to 240	70 to 240	37.5	76.0	166.5
MB20/5	16 to 150	16 to 150	37.5	76.0	160.0
Application range for <b>STRANDED CIRCULAR</b> conductors					
MB20/1	10 to 95	10 to 95	28.0	55.0	145.5
MB20/2	16 to 185	16 to 185	32.0	62.0	148.5
MB20/3	70 to 300	70 to 300	37.5	76.0	166.5
MB20/5	16 to 150	16 to 150	37.5	76.0	160.0
Application range for <b>SOLID CIRCULAR</b> conductors					
MB20/1	10 to 185	10 to 185	28.0	55.0	145.5
MB20/2	16 to 300	16 to 300	32.0	62.0	148.5
MB20/3	70 to 400	70 to 400	37.5	76.0	166.5
MB20/5	16 to 300	16 to 300	37.5	76.0	160.0

Required tool for all products:  
JTS/16 Splined socket



Recommended tool for all products:  
RPS13/17-6H or RPS13/17-6SH



TECHNICAL GUIDELINES & INFORMATION, page 02.  
Products also suitable for installation with  
battery powered impact drivers. Refer to page XX



936-MK3



### CONSAC SHEATH CUTTING TOOL

Designed to cut the aluminium sheath on consac cable to facilitate jointing and terminating.

- + The tool provides a safe and accurate scoring of the sheath without the risk of cutting the insulation papers
- + Exact cutting depths are achieved when using the different size cutting wheels
- + 'T' handle is available to assist the operation of the tool
- + Consac Sheath Punch is available in 3 sizes – 7mm, 10mm or 12mm
- + Complete sheath cutting kit in plastic case available on request

### PUNCHES & CONNECTOR HOLDING TOOL

- + Punches to suit M6, M8 & M12 bolts



HP7



HP12



JTS/22

### OTHER ACCESSORIES AVAILABLE



JTN/1



JTN/6



JTN/7



JTN/4A



JTN/6A



JTN/7A



JTN/5