



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx IMQ 19.0001X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 1 [Issue 0 \(2019-03-20\)](#)
Date of Issue: 2020-09-24
Applicant: **KME ITALY S.p.A.**
Via Giorgio Saviane, 6 – 50127 Firenze (FI)
Italy
Equipment: **Cable glands for mineral insulated cables**
Optional accessory: RAD ISO NN nYm; RAD GAS NN nYm
Type of Protection: **Ex db; Ex eb; Ex tb**
Marking: Ex db IIC Gb
Ex eb IIC Gb
Ex tb IIIC Db

Approved for issue on behalf of the IECEx
Certification Body:

Mr. Mauro CASARI

Position:

IMQ ExCB Manager

Signature:
(for printed version)

Date:

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2. This certificate is not transferable and remains the property of the issuing body.
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Istituto Italiano del Marchio di Qualità S.p.A
Via Quintiliano 43
20138 Milano
Italy





IECEX Certificate of Conformity

Certificate No.: **IECEX IMQ 19.0001X**

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Date of issue: 2020-09-24

Issue No: 1

Manufacturer: **KME ITALY S.p.A.**
Via della Repubblica 257 – 55051 Fornaci di Barga (LU)
Italy

Additional
manufacturing
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2015 Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
Edition:5.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[IT/IMQ/ExTR19.0004/01](#)

Quality Assessment Reports:

[IT/IMQ/QAR19.0001/00](#)

[IT/IMQ/QAR19.0001/01](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The cable glands series RAD ISO and RAD GAS are made by a backnut, a compression ring (or double-cone) and a brass gland body. All the components are made with CW614N brass. Upon customer request, the cable glands can be supplied with galvanic coating of nickel with a thickness between 2 and 5 μm . These series of cable glands are suitable for use only with insulated mineral cables (MICO[®]) "L" type (500 V) and "H" type (750 V) of the same manufacturer. They are generally terminated with a seal (except for sizes 1H300 and 1H400), which consists of a brass pot, stub caps, a sealant and insulating sleeving for conductors.

Gland and cable type matching is shown in Tables included in Annex.

The cable glands series RAD ISO and RAD GAS are suitable for inserting insulated mineral cables into Ex db, Ex eb or Ex tb enclosures having only threaded entries (the use with enclosures with not-threaded holes and the use of counter-nuts is not guaranteed).

Protection degree IP65 is guaranteed without any gasket and by usage of suitable sealant put at least on one complete threads engaged of the threaded coupling, according to manufacturer's instructions.

Cable glands are provided, on the side attached to enclosure, with the following main mounting external threads type:

- gas tapered: thread shape and tolerance according to EN 10226-1 (former ISO 7-1, admitted by IEC 60079-1:2014 Ed.7.0);
- isometric: thread shape according to ISO 262 or UNI 4535, with coupling tolerances in accordance with ISO 965-1 and ISO 965/3

Design options and models list are detailed in Annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The cable glands are only suitable for fixed installations.
- The coupling of the cable glands to the enclosure shall be made as indicated by the manufacturer in the documents annexed to this certificate in order to respect the type of protection of the electrical apparatus on which cable glands are mounted.
- These cable glands are approved for use at the following ambient temperature: $-20 \div 70$ °C.
- The cable gland installation shall be done according to safety manufacturer instructions to maintain degree of protection.
- The cable gland installation shall be done in such a way that the temperature at the mounting point will remain within the service temperature ranges declared in this certificate.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Cable Glands can be supplied also with Galvanic Nickel Plated painting: $2 \div 5 \mu\text{m}$ thickness.
Standards update.

Annex:

[IECEx IMQ 19.0001 X issue No. 1 Annex.pdf](#)

Annex to: IECEx IMQ 19.0001X issue No. 1

Applicant: KME Italy S.p.A.

Apparatus: RAD ISO NN nYm
RAD GAS NN nYm



General description

The cable glands series RAD ISO and RAD GAS are made by a backnut, a compression ring (or double-cone) and a brass gland body. All the components are made with CW614N brass. Upon customer request, the cable glands can be supplied with galvanic coating of nickel with a thickness between 2 and 5 µm. These series of cable glands are suitable for use only with insulated mineral cables (MICO®) "L" type (500 V) and "H" type (750 V) of the same manufacturer. They are generally terminated with a seal (except for sizes 1H300 and 1H400), which consists of a brass pot, stub caps, a sealant and insulating sleeving for conductors.

Gland and cable type matching is shown in Tables below.

The cable glands series RAD ISO and RAD GAS are suitable for inserting insulated mineral cables into Ex db, Ex eb or Ex tb enclosures having only threaded entries (the use with enclosures with not-threaded holes and the use of counter-nuts is not guaranteed).

Protection degree IP65 is guaranteed without any gasket and by usage of suitable sealant put at least on one complete threads engaged of the threaded coupling, according to manufacturer's instructions.

Cable glands are provided, on the side attached to enclosure, with the following main mounting external threads type:

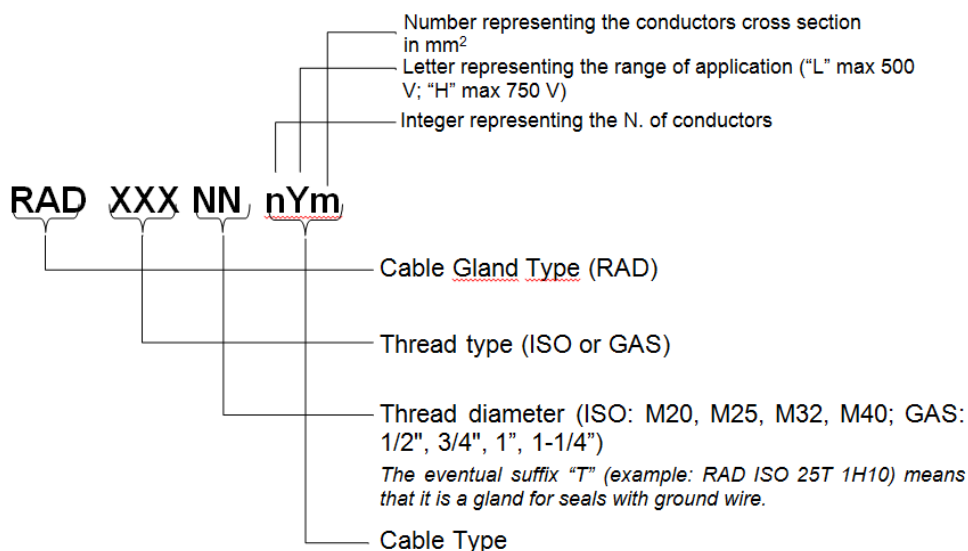
- gas tapered: thread shape and tolerance according to EN 10226-1 (ex ISO 7-1, admitted by IEC 60079-1:2014 Ed.7.0);
- isometric: thread shape according to ISO 262 or UNI 4535, with coupling tolerances in accordance with ISO 965-1 and ISO 965/3.

Design options and Key code

Ambient temperature: -20°C ÷ +70°C

Service temperature: -20°C÷ +250°C

Key code:



Annex to: IECEx IMQ 19.0001X issue No. 1

Applicant: KME Italy S.p.A.

Apparatus: RAD ISO NN nYm
RAD GAS NN nYm



Specific conditions of Use:

- The cable glands are only suitable for fixed installations.
- The coupling of the cable glands to the enclosure shall be made as indicated by the manufacturer in the documents annexed to this certificate in order to respect the type of protection of the electrical apparatus on which cable glands are mounted.
- These cable glands are approved for use at the following ambient temperature: $-20^{\circ}\text{C} \div 70^{\circ}\text{C}$.
- The cable gland installation shall be done according to safety manufacturer instructions to maintain degree of protection.
- The cable gland installation shall be done in such a way that the temperature at the mounting point will remain within the service temperature ranges declared in this certificate.

Models sizes

RAD ISO

Legend:

Metric thread pitch: Φ D: max. diameter of compression ring
ISO 20: M20x1.5 Φ X: ext. diameter of cable
ISO 25: M25x1.5 M: height of compression ring
ISO 32: M32x1.5
ISO 40: M40x1.5

Cable glands for Mineral Insulated Cables – “L” type 500 V

Gland type	N° Cond x section	Cable code	Nut marking	Φ D mm	Φ X mm	M mm	Minimum torque for Glands
ISO 20	2 x 1	2L1	ISO 20 - 2L1	8	5.1	6.5	18 Nm
	2 x 1.5	2L1.5	ISO 20 – 2L1.5	8	5.7	6.5	
	2 x 2.5	2L2.5	ISO 20 – 2L2.5	9	6.6	6.5	
	2 x 4	2L4	ISO 20 – 2L4	11	7.7	6.5	
	3 x 1	3L1	ISO 20 – 3L1	8	5.8	6.5	
	3 x 1.5	3L1.5	ISO 20 – 3L1.5	9	6.4	6.5	
	3 x 2.5	3L2.5	ISO 20 – 3L2.5	10	7.3	6.5	
	4 x 1	4L1	ISO 20 – 4L1	9	6.3	6.5	
	4 x 1.5	4L1.5	ISO 20 – 4L1.5	10	7.0	6.5	
	4 x 2.5	4L2.5	ISO 20 – 4L2.5	11	8.1	6.5	
ISO 25	7 x 1	7L1	ISO 25 – 7L1	11	7.6	6.5	18 Nm
	7 x 1.5	7L1.5	ISO 25 – 7L1.5	11	8.4	6.5	
	7 x 2.5	7L2.5	ISO 25 – 7L2.5	12	9.7	6.5	

Cable glands for Mineral Insulated Cables – “H” type 750 V

Annex to: IECEx IMQ 19.0001X issue No. 1

Applicant: KME Italy S.p.A.

Apparatus: RAD ISO NN nYm
RAD GAS NN nYm



Gland type	N° Cond x section	Cable code	Nut marking	Φ D mm	Φ X mm	M mm	Minimum torque for glands
ISO 20	1 x 1.5	1H1.5	ISO 20 - 1H1.5	8	4.9	6.5	18 Nm
	1 x 2.5	1H2.5	ISO 20 - 1H2.5	8.5	5.3	6.5	
	1 x 4	1H4	ISO 20 - 1H4	8.5	5.9	6.5	
	1 x 6	1H6	ISO 20 - 1H6	9	6.4	6.5	
	1 x 10	1H10	ISO 20 - 1H10	10	7.3	6.5	
	1 x 16-3 x 1.5	1H16-3H1.5	ISO 20 - 1H16/3H1.5	11	8.3	6.5	
	1 x 25	1H25	ISO 20 - 1H25	12	9.6	6.5	
	1 x 35	1H35	ISO 20 - 1H35	13	10.7	6.5	
	2 x 1.5	2H1.5	ISO 20 - 2H1.5	11	7.9	6.5	18 Nm
	2 x 2.5	2H2.5	ISO 20 - 2H2.5	11	8.7	6.5	
	2 x 4	2H4	ISO 20 - 2H4	12	9.8	6.5	
	2 x 6	2H6	ISO 20 - 2H6	13.7	10.9	6.5	
	3 x 2.5	3H2.5	ISO 20 - 3H2.5	12	9.3	6.5	
	3 x 4	3H4	ISO 20 - 3H4	13	10.4	6.5	
	4 x 1.5	4H1.5	ISO 20 - 4H1.5	12	9.1	6.5	
	4 x 2.5	4H2.5	ISO 20 - 4H2.5	13	10.1	6.5	
ISO 25	1 x 50-7 x 2.5	1H50-7H2.5	ISO 25 - 1H50/7H2.5	15	12.1	6.5	18 Nm
	1 x 70	1H70	ISO 25 - 1H70	16	13.7	6.5	
	1 x 95	1H95	ISO 25 - 1H95	18	15.4	6.5	
	2 x 10-4 x 6	2H10-4H6	ISO 25 - 2H10/4H6	15	12.7	6.5	
	2 x 16	2H16	ISO 25 - 2H16	17	14.7	6.5	
	3 x 6	3H6	ISO 25 - 3H6	14	11.5	6.5	
	3 x 10	3H10	ISO 25 - 3H10	16	13.6	6.5	
	3 x 16	3H16	ISO 25 - 3H16	18	15.6	6.5	
	4 x 4	4H4	ISO 25 - 3H16	14	11.4	6.5	
	4 x 10	4H10	ISO 25 - 4H10	17	14.8	6.5	
	7 x 1.5	7H1.5	ISO 25 - 7H1.5	13	10.8	6.5	
ISO 32	12 x 1.5	12H1.5	ISO32-12H1.5	17.1	14.1	6.5	40 Nm
	12 x 2.5	12H2.5	ISO32-12H2.5	18.6	15.6	6.5	
	1 x 120	1H120	ISO 32 - 1H120	19.8	16.8	6.5	45 Nm
	1 x 150	1H150	ISO 32 - 1H150	21.4	18.4	6.5	
	1 x 185	1H185	ISO 32 - 1H185	23.4	20.4	6.5	
	2 x 25	2H25	ISO 32 - 2H25	20.1	17.1	6.5	
	4 x 16	4H16	ISO 32 - 4H16	20.0	17.3	6.5	
ISO 40	1 x 240	1H240	ISO 40 - 1H240	26.3	23.3	6.5	110 Nm
	1 x 300	1H300	ISO 40 - 1H300	30.9	26	10	
	1 x 400	1H400	ISO 40 - 1H400	34.9	30	10	150 Nm

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Applicant: KME Italy S.p.A.

Apparatus: RAD ISO NN nYm
RAD GAS NN nYm



	3 x 25	3H25	ISO 40 - 3H25	21.2	18.2	6.5	110 Nm
	4 x 25	4H25	ISO 40 - 4H25	23.1	20.1	6.5	
	19 x 1.5	19H1.5	ISO 40 - 19H1.5	19.6	16.6	6.5	

Cable glands for Mineral Insulated Cables, either earth tail seal – “H” type 750 V

Gland type	N° Cond x section	Cable code	Nut marking	Φ D mm	Φ X mm	M mm	Minimum torque for glands
ISO 25	1 x 10	1H10	ISO 25T - 1H10	10	7.3	6.5	18 Nm
	1 x 16	1H16	ISO 25T - 1H16	11	8.3	6.5	
	2 x 4	2H4	ISO 25T - 2H4	12	9.8	6.5	
	2 x 6	2H6	ISO 25T - 2H6	13.7	10.9	6.5	
	3 x 2.5	3H2.5	ISO 25T - 3H2.5	12	9.3	6.5	
	3 x 4	3H4	ISO 25T - 3H4	13	10.4	6.5	
	4 x 2.5	4H2.5	ISO 25T - 4H2.5	13	10.1	6.5	
ISO 32	1 x 25	1H25	ISO 32T - 1H25	12	9.6	6.5	40 nm
	1 x 35	1H35	ISO 32T - 1H35	13	10.7	6.5	
	2 x 10-4 x 6	2H10-4H6	ISO 32T - 2H10/4H6	15	12.7	6.5	
	3x10	3H10	ISO 32T - 3H10	16	13.6	6.5	
	4x10	4H10	ISO 32T - 4H10	17	14.8	6.5	
ISO 40	1 x 50	1H50	ISO 40T - 1H50	16	12.1	6.5	45 Nm
	2 x 16	2H16	ISO 40T - 2H16	17	14.7	6.5	
	2 x 25	2H25	ISO 40T - 2H25	20	17.1	6.5	
	3 x 16	3H16	ISO 40T - 3H16	18	15.6	6.5	
	4 x 16	4H16	ISO 40T - 4H16	20	17.3	6.5	

RAD GAS

Legend

Thread pitch: Φ D: max. diameter of compression ring
RAD G1/2": 1/2" Φ X: ext. diameter of cable
RAD G3/4": 3/4" M: height of compression ring
RAD G1": 1"
RAD G1-1/4": 1-1/4"

Cable glands for Mineral Insulated Cables – “L” type 500 V

Gland type	N° Cond x section	Cable code	Nut marking	Φ D mm	Φ X mm	M mm	Minimum torque for glands
RAD G 1/2"	2 x 1	2L1	RAD G 1/2" - 2L1	8	5.1	6.5	18 Nm
	2 x 1.5	2L1.5	RAD G 1/2" - 2L1.5	8	5.7	6.5	
	2 x 2.5	2L2.5	RAD G 1/2" - 2L2.5	9	6.6	6.5	
	2 x 4	2L4	RAD G 1/2" - 2L4	11	7.7	6.5	

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Applicant: KME Italy S.p.A.

Apparatus: RAD ISO NN nYm
RAD GAS NN nYm



	3 x 1	3L1	RAD G 1/2" – 3L1	8	5.8	6.5	
	3 x 1.5	3L1.5	RAD G 1/2" – 3L1.5	9	6.4	6.5	
	3 x 2.5	3L2.5	RAD G 1/2" – 3L2.5	10	7.3	6.5	
	4 x 1	4L1	RAD G 1/2" – 4L1	9	6.3	6.5	
	4 x 1.5	4L1.5	RAD G 1/2" – 4L1.5	10	7.0	6.5	
	4 x 2.5	4L2.5	RAD G 1/2" – 4L2.5	11	8.1	6.5	
RAD G 3/4"	7 x 1	7L1	RAD G 3/4" – 7L1	11	7.6	6.5	18 Nm
	7 x 1.5	7L1.5	RAD G 3/4" – 7L1.5	11	8.4	6.5	
	7 x 2.5	7L2.5	RAD G 3/4" – 7L2.5	12	9.7	6.5	

Cable glands for Mineral Insulated Cables – "H" type 750 V

Gland type	N° Cond x section	Cable code	Nut marking	Φ D mm	Φ X mm	M mm	Minimum torque for glands
RAD G 1/2"	1 x 1.5	1H1.5	RAD G 1/2"- 1H1.5	8	4.9	6.5	18 Nm
	1 x 2.5	1H2.5	RAD G 1/2"- 1H2.5	8.5	5.3	6.5	
	1 x 4	1H4	RAD G 1/2"- 1H4	8.5	5.9	6.5	
	1 x 6	1H6	RAD G 1/2"- 1H6	9	6.4	6.5	
	1 x 10	1H10	RAD G 1/2"- 1H10	10	7.3	6.5	
	1 x 16-3 x 1.5	1H16-3H1.5	RAD G 1/2"- 1H16/3H1.5	11	8.3	6.5	
	1 x 25	1H25	RAD G 1/2"- 1H25	12	9.6	6.5	
	2 x 1.5	2H1.5	RAD G 1/2"- 2H1.5	11	7.9	6.5	
	2 x 2.5	2H2.5	RAD G 1/2"- 2H2.5	11	8.7	6.5	
	2 x 4	2H4	RAD G 1/2"- 2H4	12	9.8	6.5	
	3 x 2.5	3H2.5	RAD G 1/2"- 3H2.5	12	9.3	6.5	
	4 x 1.5	4H1.5	RAD G 1/2"- 4H1.5	12	9.1	6.5	
RAD G 3/4"	1 x 35	1H35	RAD G 3/4"- 1H35	13	10.7	6.5	18 Nm
	1 x 50-7 x 2.5	1H50-7H2.5	RAD G 3/4"- 1H50/7H2.5	15	12.1	6.5	
	1 x 70	1H70	RAD G 3/4"- 1H70	16	13.7	6.5	
	2 x 6	2H6	RAD G 3/4"- 2H6	14	10.9	6.5	
	2 x 10-4 x 6	2H10-4H6	RAD G 3/4"- 2H10/4H6	15	12.7	6.5	
	2 x 16	2H16	RAD G 3/4"- 2H16	17	14.7	6.5	
	3 x 4	3H4	RAD G 3/4"- 3H4	13	10.4	6.5	
	3 x 6	3H6	RAD G 3/4"- 3H6	14	11.5	6.5	
	3 x 10	3H10	RAD G 3/4"- 3H10	16	13.6	6.5	
	4 x 2.5	4H2.5	RAD G 3/4"-4H2.5	13	10.1	6.5	
	4 x 4	4H4	RAD G 3/4"- 3H16	14	11.4	6.5	
	7 x 1.5	7H1.5	RAD G 3/4"- 7H1.5	13	10.8	6.5	
	12 x 1.5	12H1.5	RAD G 3/4"-12H1.5	17	14.1	6.5	
RAD G 1"	1 x 95	1H95	RAD G 1"- 1H95	18	15.4	6.5	36 Nm

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Applicant: KME Italy S.p.A.

Apparatus: RAD ISO NN nYm
RAD GAS NN nYm



	1 x 120	1H120	RAD G 1"- 1H120	19	16.8	6.5	
	2 x 25	2H25	RAD G 1"- 2H25	20	17.1	6.5	
	3 x 16	3H16	RAD G 1"- 3H16	18	15.6	6.5	
	4 x 10	4H10	RAD G 1"- 4H10	17	14.8	6.5	
	4 x 16	4H16	RAD G 1"- 4H16	20	17.3	6.5	
RAD G 1-1/4"	1 x 150	1H150	RAD G 1'-1/4"- 1H150	21	18.4	6.5	
	1 x 185	1H185	RAD G 1'-1/4"- 1H185	23	20.4	6.5	
	1 x 240	1H240	RAD G 1'-1/4"- 1H240	26	23.3	6.5	
	1 x 300	1H300	RAD G 1'-1/4"- 1H300	32	26	10	
	1 x 400	1H400	RAD G 1'-1/4"- 1H400	36.5	30	10	
	3 x 25	3H25	RAD G 1'-1/4"- 3H25	21	18.2	6.5	
	4 x 25	4H25	RAD G 1'-1/4"- 4H25	23	20.1	6.5	
	12 x 2.5	12H2.5	RAD G 1'-1/4"-12H2.5	18	15.6	6.5	
	19 x 1.5	19H1.5	RAD G 1'-1/4"- 19H1.5	20	16.6	6.5	

Cable glands for Mineral Insulated Cables, either earth tail seal – “H” type 750 V

Gland type	N° Cond x section	Cable code	Nut marking	Φ D mm	Φ X mm	M mm	Minimum torque for glands
RAD G 3/4"	1 x 10	1H10	RAD G 3/4" T- 1H10	10	7.3	6.5	18 Nm
	1 x 16	1H16	RAD G 3/4" T- 1H16	11	8.3	6.5	
	2 x 4	2H4	RAD G 3/4" T- 2H4	12	9.8	6.5	
RAD G 1"	1 x 25	1H25	RAD G 1" T- 1H25	12	9.6	6.5	36 Nm
	1 x 35	1H35	RAD G 1" T- 1H35	13	10.7	6.5	
	2 x 10-4 x 6	2H10-4H6	RAD G 1" T - 2H10/4H6	15	12.7	6.5	
RAD G 1-1/4"	1 x 50	1H50	RAD G 1-1/4" T- 1H50	16	12.1	6.5	
	2 x 16	2H16	RAD G 1-1/4" T- 2H16	17	14.7	6.5	
	2 x 25	2H25	RAD G 1-1/4" T- 2H25	20	17.1	6.5	
	3 x 16	3H16	RAD G 1-1/4" T- 3H16	18	15.6	6.5	
	4 x 16	4H16	RAD G 1-1/4" T- 4H16	20	17.3	6.5	