



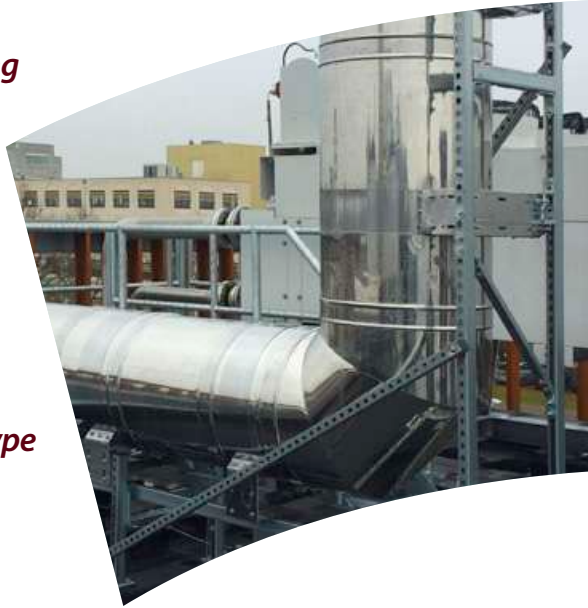
**INDUSTRIAL
STACKS**



TYPES OF CHIMNEYS

Axces designs custom made chimneys for each project in types:

- ✓ *Single wall free standing*
- ✓ *Single wall guided*
- ✓ *Double wall free standing*
- ✓ *Double wall guided*
- ✓ *Several flues in outer shell*
- ✓ *Several flues satellite type with bearing mast*
- ✓ *Several flues in steel constructions*



In order to design a chimney Axces uses data and information which are determined together with the client. Design criteria can be based on location, with its own wind characteristics, architectural or clients personal wishes on the visual aspect, the process(es) which create the exhaust, flue or process gasses, chemical data on which Axces determines the materials and corrosion allowance, technical data such as flow, temperature, pressure drop, heat balances, and emissions height.

For each complicated emission problem Axces has an answer available.

DESIGN AND CODES

Chimneys and constructions are designed according to design codes and standards. Lots of countries have their own regulation and code we know our way in the web of regulations and codes. Examples of different design codes which can be used are:

- ✓ National codes and standards.
- ✓ The Euro code (new code for Europe).
- ✓ The DIN 4133 (German design code free standing chimneys).
- ✓ The CICIND (International Committee on Industrial chimneys).

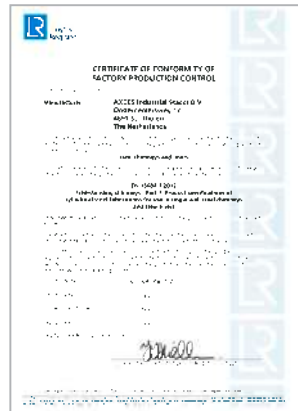
Axces designs on above standing codes a safe design and a suitable chimney for your project.

EARTHQUAKE DESIGN

In many places, stacks have to be calculated taken earthquake risk into consideration. In this case Axces checks if the stack silencer combination for the overturning moment does not exceed the bending moment due to the wind. Axces adapts the design to the outcome of the earthquake calculation if necessary.

CERTIFICATION EN 13084-7 & CE MARKING

Axces is certified by Lloyds to give CE marking on each chimney and also on each chimney/silencer combination. In this combination Axces Industrial Stacks is the only company in Europe allowed to give CE marking on the complete system. The EN 13084-7 is the guideline for design and construction for chimneys which ensures that the design is correct.



SPECIALISM

Axces has lots of experience in all sorts of silencer/stack combinations, freestanding, within a steel construction or combined exhaust on a central column. The costs of a project can be dominated by transport costs. Axces designs system silencers and stacks exactly to dimensions so that an optimum is found for:

- ✓ The best technic for low engine sound level, with dimensions limited to fit container size.
- ✓ The right dimensions to make sure the velocity in the chimney and at outburst will not exceed the maximum pressure drop.
- ✓ Unlimited possibility's in carbon steel and stainless steel combinations.
- ✓ Complete dynamic behavior calculations and foreseen with a dynamic shock absorption.
- ✓ Materials for different circumstances to avoid condensate or corrosion problems.
- ✓ Solutions to prevent corrosion or incoming rain, which can lead to corrosion due to the acidulous gasses.
- ✓ Platforms and ladders can be pre-mounted to ensure perfect fitting.
- ✓ Easy to handle parts on sliding frames to unload containers with only a forklift and a small crane.
- ✓ Maximum deadweight of the parts can be adapted to the available crane in the project.



An optimum design to fit your containers results in the lowest costs per project. In budget stage of the project Axces can determine the number of containers to use so there won't be any surprises after the order.

BUILD YOUR OWN STACK

The Axces BYOS (Build Your Own Stack) program is especially for those clients who have the capability and equipment to build chimneys, but lack in special knowledge. Axces Industrial Stacks can be your solution; Axces can provide all the knowledge to Build Your Own Stack.

BYOS 1

What Axces supplies:

- ✓ The calculation of the loadings on the foundation.
- ✓ The static dynamic calculation of the stack, which indicates all necessary details to roughly build the stack.
- ✓ Anchorbasket design.

This program can be used by customers who build stacks before, used for stacks without Tuned Mass Dampers.

BYOS 2

What Axces supplies:

- ✓ The calculation of the loadings on the foundation.
- ✓ The static dynamic calculation of the stack, which indicates all necessary details to roughly build the stack.
- ✓ Anchorbasket design.
- ✓ Tuned Mass Damper design, and delivery of essential parts.

This program can be used by customers who build stacks before, used for stacks with Tuned Mass Dampers.



BUILD YOUR OWN STACK

BYOS 3

What Axces supplies:

- ✓ The calculation of the loadings on the foundation.
- ✓ The static dynamic calculation of the stack, which indicates all necessary details to build the stack.
- ✓ Anchorbasket design.
- ✓ Tuned Mass Damper design, and delivery of essential parts.
- ✓ Flange and bolted connection details.
- ✓ Re-inforcement selection for apertures.
- ✓ All documents as sketches.

This program can be used by customers who want to build their own stack.



BYOS 4

What Axces supplies:

- ✓ The complete design and engineering of the stack is performed.
- ✓ All calculations, detailed drawings and digital information.
- ✓ All welding details and special attention points are indicated.
- ✓ Tuned Mass Damper design, and delivery of essential parts.

With this program a shop familiar with handling rolled steel plates can build its own stack.

ELEMENT SYSTEM CHIMNEYS

Element system chimneys are used in systems with low underpressure or overpressure, small diameters, for boilers heaters diesel engines and hot air. Axces has systems for wet fluegas and systems for hot fluegasses for engines and special purposes. All types are easy to fit, less weight and simply to order, most parts Axces has on stock.

The diameter range is starting with 100 mm next 130. 150. 180. 200. 250. 300. 350. 400. 450. 500. 600 and the biggest 700 mm. Length of parts are standard 1 m, intermediate pieces, T-piece, segmented elbow, reducers, cones on request.

- ✓ Double-walled stainless steel chimney system.
- ✓ Element construction with spigot and socket connection, CE certified.
- ✓ Consisting of inner tube, stainless steel material no. 1.4404.
- ✓ T = 0.5 mm, 25 mm mineral fiber insulation and
- ✓ Stainless steel outer tube, material no. 1.4301. t = 0.6 mm, including necessary fittings and connections.





**CHIMNEY
ELEMENTS**



TYPE ASKFTG

Hot Exhaust

The double-wall insulated system used as a standalone external chimney for open combustion chamber boilers and fireplaces. It allows for setting the heating unit (furnace, fireplace) anywhere in the facility. The chimney is carried outside and mounted on the wall. It comes in two versions: Premium for gas, oil, wood, pellets. Standard for boilers working on gas and oil. The system can operate only in dry working conditions at temperatures up to 600°C.

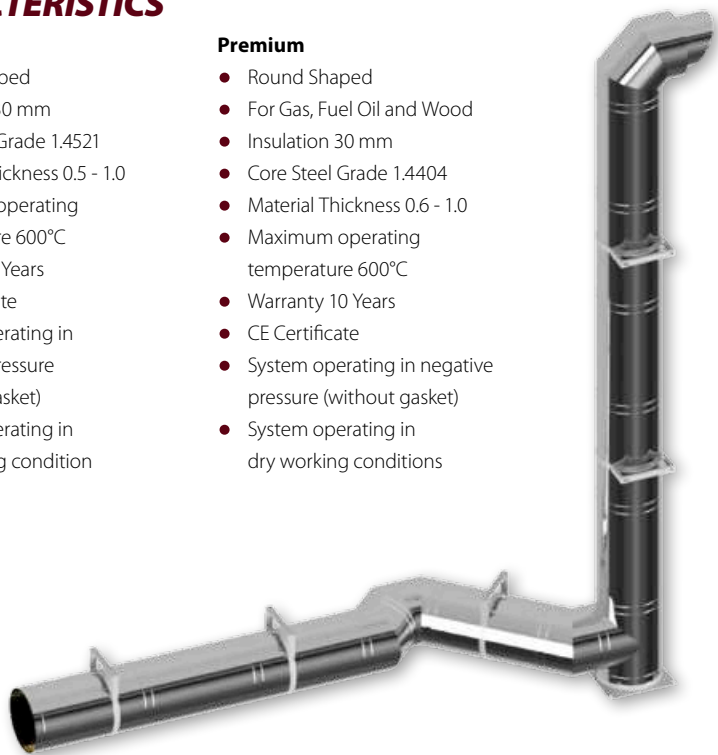
CHARACTERISTICS

Standard

- Round Shaped
- Insulation 30 mm
- Core Steel Grade 1.4521
- Material Thickness 0.5 - 1.0
- Maximum operating temperature 600°C
- Warranty 5 Years
- CE Certificate
- System operating in negative pressure (without gasket)
- System operating in dry working condition

Premium

- Round Shaped
- For Gas, Fuel Oil and Wood
- Insulation 30 mm
- Core Steel Grade 1.4404
- Material Thickness 0.6 - 1.0
- Maximum operating temperature 600°C
- Warranty 10 Years
- CE Certificate
- System operating in negative pressure (without gasket)
- System operating in dry working conditions



TYPE ASKFKS

Cold Exhaust

The double-wall insulated system used as a standalone external chimney for boilers using condensation of steam generated during combustion (condensing and turbo boilers). It allows for setting the heating unit (condensing or turbo boiler) anywhere in the facility. The chimney is carried outside and mounted on the wall. The system has grooves for gaskets, and all elements of the system are air tight. It comes in two versions: Premium for oil, gas, wood. Standard for boilers working on gas and oil. The system can operate only in wet working conditions at temperatures up to 200°C.

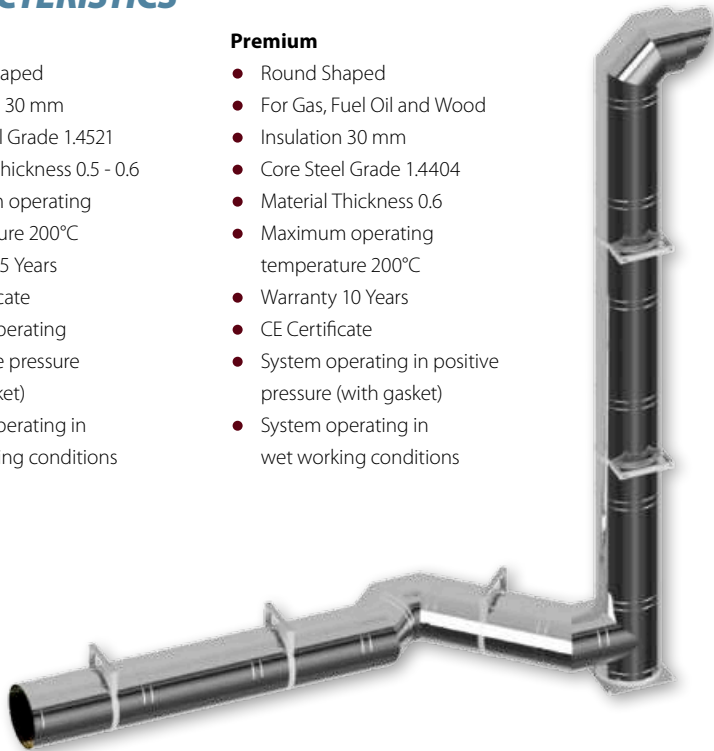
CHARACTERISTICS

Standard

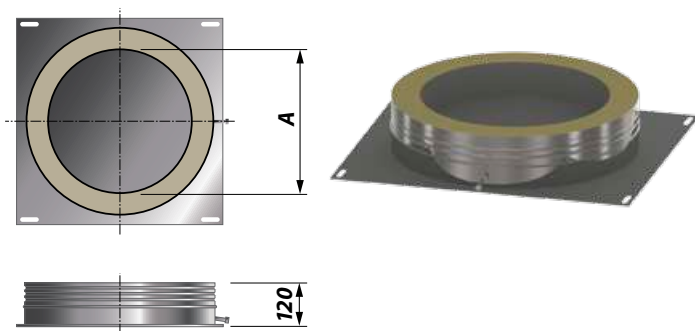
- Round Shaped
- Insulation 30 mm
- Core Steel Grade 1.4521
- Material Thickness 0.5 - 0.6
- Maximum operating temperature 200°C
- Warranty 5 Years
- CE Certificate
- System operating in positive pressure (with gasket)
- System operating in wet working conditions

Premium

- Round Shaped
- For Gas, Fuel Oil and Wood
- Insulation 30 mm
- Core Steel Grade 1.4404
- Material Thickness 0.6
- Maximum operating temperature 200°C
- Warranty 10 Years
- CE Certificate
- System operating in positive pressure (with gasket)
- System operating in wet working conditions



BASE ELEMENT



TYPE ASKFTG

| | | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|---------------|---|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 190 | 210 | 240 | 260 | 280 | 310 | 360 | 410 | 460 | 510 | 560 | 610 | 710 |
| Insulation 60 | A | 250 | 270 | 300 | 320 | 350 | 370 | 420 | 470 | 520 | 570 | 620 | 670 | 770 |

TYPE ASKFKS

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 190 | 210 | 240 | 260 | 280 | 310 | 360 | 410 | 460 | 510 | 560 | 610 | 710 |
| Insulation 60 | A | 250 | 270 | 300 | 320 | 350 | 370 | 420 | 470 | 520 | 570 | 620 | 670 | 770 |

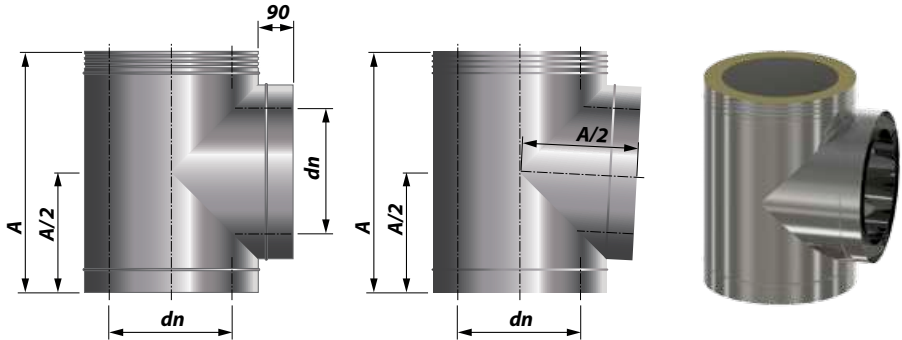
'HOT' SYSTEM TYPE ASKFTG

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
- ✓ 30 mm or 60 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

'WET' SYSTEM TYPE ASKFKS

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
- ✓ 1.4404 (AISI 316L) flue
- ✓ Boilers and process lines
- ✓ 30 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

SIDE CONNECTION 90°/87°



TYPE ASFTSG 90°

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 330 | 370 | 400 | 420 | 450 | 470 | 520 | 570 | 620 | 670 | 720 | 70 | 870 |
| Insulation 60 | A | 410 | 430 | 460 | 480 | 510 | 530 | 580 | 630 | 680 | 730 | 780 | 830 | 930 |

TYPE ASFKS 87°

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 350 | 205 | 400 | 400 | 450 | 450 | 500 | 520 | 570 | 620 | 670 | 720 | 870 |
| Insulation 30 | A | 179 | 186 | 205 | 206 | 231 | 232 | 257 | 268 | 294 | 321 | 247 | 373 | 400 |
| Insulation 30 | A | 164 | 174 | 190 | 201 | 216 | 227 | 240 | 253 | 280 | 306 | 332 | 359 | 400 |

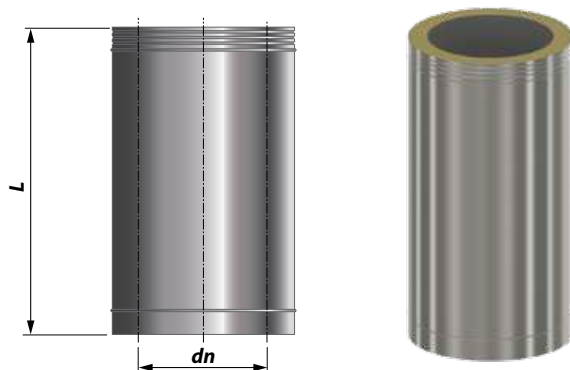
'HOT' SYSTEM TYPE ASFTSG

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
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'WET' SYSTEM TYPE ASFKS

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
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STRAIGHT ELEMENT



TYPE ASRTG

| Length (mm) | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|-------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 250 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 500 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1000 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

TYPE ASRTK

| Length (mm) | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|-------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 250 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 500 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1000 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

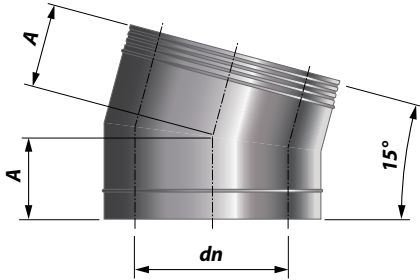
'HOT' SYSTEM TYPE ASRTG

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'WET' SYSTEM TYPE ASRTK

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- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

ELBOW 15°



TYPE ASBG TG 15°

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 105 | 106 | 108 | 109 | 111 | 112 | 115 | 119 | 122 | 125 | 129 | 132 | 160 |
| Insulation 60 | A | 150 | 170 | 170 | 170 | 170 | 170 | 170 | 190 | 190 | 190 | 220 | 220 | 230 |

TYPE ASBGK 15°

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 104 | 106 | 108 | 109 | 111 | 112 | 114 | 115 | 119 | 122 | 145 | 129 | 132 |

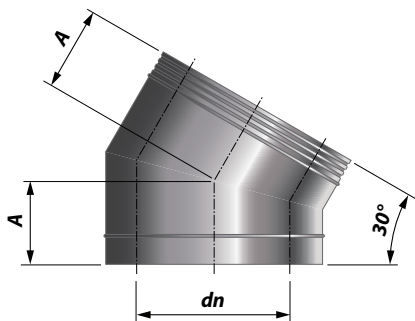
'HOT' SYSTEM TYPE ASBG TG

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
- ✓ 30 mm or 60 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
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- ✓ Easy to install

'WET' SYSTEM TYPE ASBGK

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
- ✓ 1.4404 (AISI 316L) flue
- ✓ Boilers and process lines
- ✓ 30 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

ELBOW 30°



TYPE ASBGTG 30°

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 113 | 114 | 120 | 123 | 127 | 130 | 137 | 143 | 150 | 157 | 163 | 170 | 200 |
| Insulation 60 | A | 150 | 160 | 170 | 170 | 190 | 190 | 190 | 220 | 220 | 220 | 250 | 250 | 255 |

TYPE ASBGK 30°

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 114 | 116 | 120 | 123 | 127 | 130 | 133 | 137 | 143 | 150 | 157 | 163 | 170 |

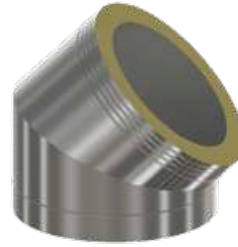
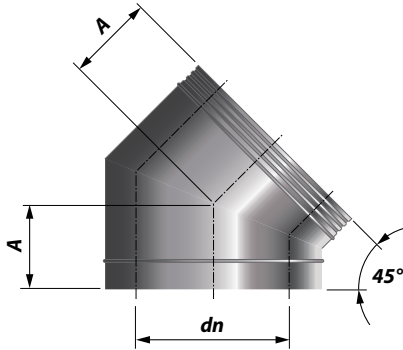
'HOT' SYSTEM TYPE ASBGTG

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
- ✓ 30 mm or 60 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

'WET' SYSTEM TYPE ASBGK

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
- ✓ 1.4404 (AISI 316L) flue
- ✓ Boilers and process lines
- ✓ 30 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

ELBOW 45°



TYPE ASBGTG 45°

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|---------------|----|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Insulation 30 | A | 124 | 128 | 134 | 138 | 145 | 149 | 159 | 170 | 180 | 190 | 201 | 211 | 232 |
| Insulation 60 | A | 138 | 142 | 148 | 153 | 153 | 159 | 173 | 184 | 194 | 204 | 215 | 225 | 247 |

TYPE ASBGK 45°

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Insulation 30 | A | 124 | 128 | 134 | 138 | 145 | 149 | 165 | 159 | 170 | 180 | 190 | 201 | 211 |

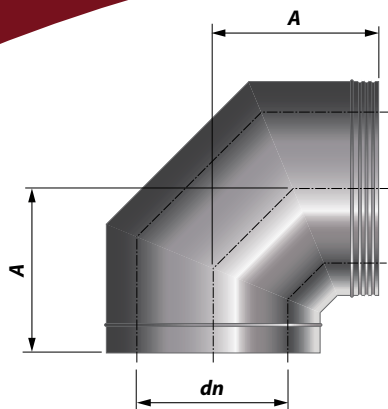
'HOT' SYSTEM TYPE ASBGTG

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
- ✓ 30 mm or 60 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

'WET' SYSTEM TYPE ASBGK

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
- ✓ 1.4404 (AISI 316L) flue
- ✓ Boilers and process lines
- ✓ 30 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

ELBOW 90°



TYPE ASBGTG 90°

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 210 | 223 | 241 | 254 | 261 | 271 | 278 | 303 | 328 | 353 | 378 | 403 | 470 |
| Insulation 60 | A | 225 | 235 | 250 | 260 | 275 | 285 | 310 | 335 | 360 | 385 | 410 | 435 | 500 |

TYPE ASBGK 90°

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 189 | 198 | 213 | 222 | 236 | 246 | 258 | 270 | 293 | 317 | 341 | 365 | 388 |

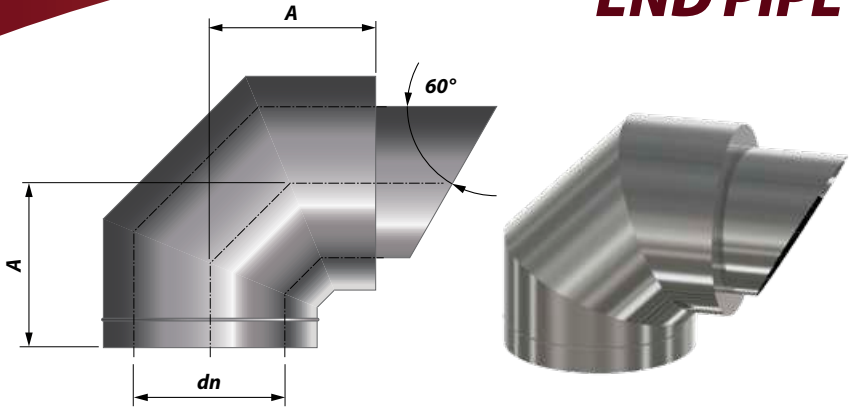
'HOT' SYSTEM TYPE ASBGTG

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
- ✓ 30 mm or 60 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

'WET' SYSTEM TYPE ASBGK

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
- ✓ 30 mm or 60 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

END PIPE



TYPE ASTH

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|---------------|----|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Insulation 30 | A | 210 | 223 | 241 | 254 | 251 | 271 | 278 | 303 | 328 | 353 | 378 | 403 | 470 |
| Insulation 60 | A | 225 | 235 | 250 | 260 | 275 | 085 | 310 | 335 | 335 | 385 | 410 | 435 | 500 |

TYPE ASTW

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Insulation 30 | A | 210 | 223 | 241 | 254 | 251 | 271 | 278 | 303 | 328 | 353 | 378 | 403 | 470 |
| Insulation 60 | A | 225 | 235 | 250 | 260 | 275 | 285 | 310 | 335 | 335 | 385 | 410 | 435 | 500 |

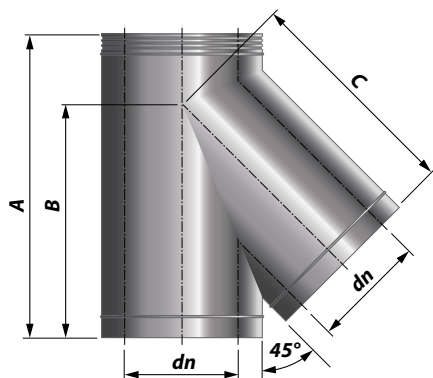
'HOT' SYSTEM TYPE ASTH

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
- ✓ 30 mm or 60 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

'WET' SYSTEM TYPE ASTW

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
- ✓ 1.4404 (AISI 316L) flue
- ✓ Boilers and process lines
- ✓ 30 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

SIDE CONNECTION 45°



TYPE ASKDT

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 510 | 540 | 570 | 570 | 650 | 650 | 820 | 820 | 1000 | 1000 | 1000 | 1250 | 1400 |
| | B | 335 | 355 | 380 | 390 | 445 | 454 | 464 | 589 | 704 | 729 | 789 | 904 | 1030 |
| | C | 350 | 370 | 409 | 433 | 496 | 493 | 574 | 634 | 694 | 755 | 815 | 925 | 1047 |
| Insulation 60 | A | 510 | 530 | 580 | 600 | 650 | 680 | 750 | 830 | 910 | 1000 | 1070 | 1150 | 1300 |
| | B | 355 | 375 | 415 | 435 | 475 | 500 | 560 | 625 | 690 | 760 | 820 | 885 | 1000 |
| | C | 350 | 370 | 405 | 430 | 470 | 495 | 555 | 615 | 675 | 735 | 795 | 860 | 990 |

TYPE ASKKD

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 430 | 430 | 500 | 500 | 550 | 580 | 615 | 650 | 720 | 800 | 870 | 940 | 1020 |
| | B | 285 | 295 | 345 | 355 | 395 | 420 | 450 | 480 | 540 | 605 | 665 | 725 | 790 |
| | C | 285 | 295 | 345 | 355 | 420 | 420 | 420 | 480 | 480 | 605 | 665 | 725 | 790 |

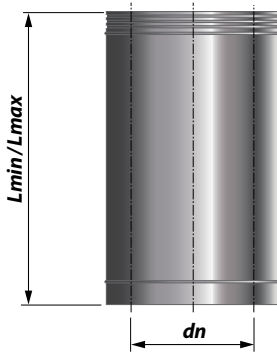
'HOT' SYSTEM TYPE ASKDT

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
- ✓ 30 mm or 60 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

'WET' SYSTEM TYPE ASKKD

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
- ✓ 1.4404 (AISI 316L) flue
- ✓ Boilers and process lines
- ✓ 30 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

VARIABLE STRAIGHT PIPE



TYPE ASRTJ

| | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Lmin | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 |
| Lmax | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |

TYPE ASRKJ

| | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Lmin | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 |
| Lmax | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |

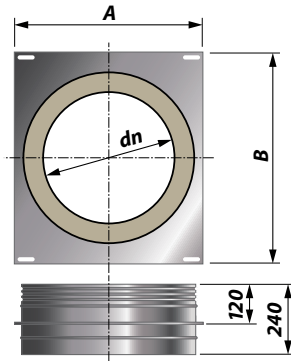
'HOT' SYSTEM TYPE ASRTJ

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
- ✓ 30 mm or 60 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

'WET' SYSTEM TYPE ASRKJ

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
- ✓ 1.4404 (AISI 316L) flue
- ✓ Boilers and process lines
- ✓ 30 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

INTERMEDIATE ELEMENT



TYPE ASKFSG

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) | ø600 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 190 | 210 | 240 | 260 | 290 | 310 | 360 | 410 | 460 | 510 | 560 | 610 | 710 |
| | B | 270 | 290 | 320 | 340 | 370 | 390 | 440 | 490 | 540 | 590 | 640 | 690 | 790 |
| Insulation 60 | A | 250 | 270 | 300 | 320 | 350 | 370 | 420 | 470 | 520 | 570 | 620 | 670 | 770 |
| | B | 330 | 350 | 380 | 400 | 430 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 850 |

TYPE ASKFSK

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Insulation 30 | A | 190 | 210 | 240 | 260 | 290 | 310 | 360 | 410 | 460 | 510 | 560 | 610 | 710 |
| | B | 270 | 290 | 320 | 340 | 370 | 390 | 440 | 490 | 540 | 590 | 640 | 690 | 790 |
| Insulation 60 | A | 250 | 270 | 300 | 320 | 350 | 370 | 420 | 470 | 520 | 570 | 620 | 670 | 770 |
| | B | 330 | 350 | 380 | 400 | 430 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 850 |

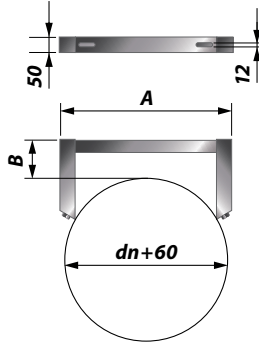
'HOT' SYSTEM TYPE ASKFSG

- ✓ Temperatures up to 600°C
- ✓ Pressure up to 5000 Pa.
- ✓ 1.4404 (AISI 316L) flue
- ✓ Gas & Diesel engines
- ✓ 30 mm or 60 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

'WET' SYSTEM TYPE ASKFSK

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
- ✓ 1.4404 (AISI 316L) flue
- ✓ Boilers and process lines
- ✓ 30 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

CONSTRUCTION CLAMP



TYPE WHT 1

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Insulation 30 | A | 180 | 198 | 222 | 240 | 266 | 283 | 305 | 326 | 370 | 413 | 456 | 500 | 540 |
| | B | 100 | 118 | 142 | 160 | 186 | 203 | 225 | 246 | 290 | 322 | 376 | 420 | 463 |

TYPE WHT 2

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Insulation 30 | A | 180 | 198 | 222 | 240 | 266 | 283 | 305 | 326 | 370 | 413 | 456 | 500 | 540 |
| | B | 100 | 118 | 142 | 160 | 186 | 203 | 225 | 246 | 290 | 322 | 376 | 420 | 463 |

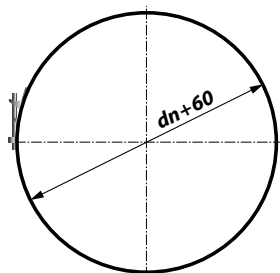
TYPE WHT 3

| | dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|---------------|----|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Insulation 30 | A | 180 | 198 | 222 | 240 | 266 | 283 | 305 | 326 | 370 | 413 | 456 | 500 | 540 |
| | B | 100 | 118 | 142 | 160 | 186 | 203 | 225 | 246 | 290 | 322 | 376 | 420 | 463 |

'WET' SYSTEM TYPE WHT

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
- ✓ 1.4404 (AISI 316L) flue
- ✓ Boilers and process lines
- ✓ 30mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

CLAMPING BAND



TYPE ASKBTS

| dn | ø80 (mm) | ø100 (mm) | ø130 (mm) | ø150 (mm) | ø180 (mm) | ø200 (mm) | ø225 (mm) | ø250 (mm) | ø300 (mm) | ø350 (mm) | ø400 (mm) | ø450 (mm) | ø500 (mm) |
|----|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| A | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |

'WET' SYSTEM TYPE ASKBTS

- ✓ Condensating boiler ducting/chimneys
- ✓ Temperatures below dewpoint up to 200°C
- ✓ 1.4404 (AISI 316L) flue
- ✓ Boilers and process lines
- ✓ 30 mm insulation wool
- ✓ Internal thermal expansion
- ✓ CE marking
- ✓ Light weighted
- ✓ Nice shining appearance
- ✓ Easy to install

