TRANSLATION

EXAM
BBG Prüf- und Zertifizier GmbH

(1) # EC-Type Examination Certificate

(2) **- Directive 94/9/EC -**
Equipment and protective systems intended for use in potentially explosive atmospheres

(3) # BVS 03 ATEX H 046 X

(4) **Equipment:** **Diverters of types PTD-II, PTD-sp, GPD, FDV, FVV, BTD, TDV, M-TDV**

(5) **Manufacturer:** **DMN Machinefabriek Noordwijkerhout B.V.**

(6) **Address:** **16, 's-Gravendamseweg, 2211 WJ, Bedrijventerrein Gravendam, P.O. Box 6, 2211 AA, Noordwijkerhout, Holland, The Netherlands**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8) The certification body of EXAM BBG Prüf- und Zertifizier GmbH certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in the test and assessment report BVS PP 1100/104f/03 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

DIN EN 1127-1: Explosion protection, Part 1: Basic principles and methodology, October 1997
DIN EN 13463-1: Non-electrical equipment for use in potentially explosive areas, Part 1: Basic principles and requirements, April 2002, with Corrections of June 2003
DIN EN 13463-5: Non-electrical equipment for use in potentially explosive areas, Part 5: Protection by constructional safety "c", March 2004
BGR 132: Prevention of ignition risks due to electrostatic charging, March 2003

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

Ex II 1D/2 GD c or **Ex II 1D/3 GD c**

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 13 May 2004

Signed: Dr Jockers
Certification body

Signed: Dr Wörsdörfer
Special services unit

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EXAM
BBG Prüf- und Zertifizier GmbH

(13) Appendix to

(14) # EC-Type Examination Certificate

BVS 03 ATEX H 046 X

(15) 15.1 Subject and Type

Diverters in accordance with table 1

15.2 Description

The diverters are intended for distributing and collecting powders and granules in pneumatic conveyors.

Type PTD-II (two-way pipe diverter)

The product in the conveyor line is deflected by the rotating ball in the casing. It is driven by an integrated pneumatic cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches indicate when the pipe rotates. All electric components are connected to the terminal box. The casings of installation sizes 50-65-80-100-125-150 are pressure resistant for 10 bar, the casing of installation size 200 is pressure resistant for 4 bar. To control this, the casing undergoes a hydraulic test in accordance with VDI 2263, Sheet 3, before delivery. The operating pressure is 0,5 bar to 4 bar or 0,5 bar to 7 bar. The medium temperature is – 25 °C to + 80 °C.

Type PTD-sp (single-channel pipe diverter)

The product in the conveyor line is deflected by the rotating ball in the casing. It is driven by a rotation cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches indicate when the pipe rotates. All electric components are connected to the terminal box. The diverter's casing is pressure resistant for 10 bar. To control this, the casing undergoes a hydraulic test in accordance with VDI 2263, Sheet 3, before delivery. The operating pressure is 0,5 bar to 4,5 bar or 0,5 bar to 7 bar. The medium temperature is – 25 °C to + 120 °C.

Type FDV valve diverter) and type FVV (T-diverter)

The product in the conveyor line is deflected by the swaying valve in the casing. It is either driven by a pneumatic linear cylinder or by a pneumatic rotation cylinder that is operated by a magnetic valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The diverter's casing is pressure resistant for 3 bar. To control this, the casing undergoes a hydraulic test in accordance with VDI 2263, Sheet 3, before delivery. The operating pressure is 0,7 bar to 3 bar for type FDV or 0,7 bar to 2 bar for type FVV. The medium temperature is – 25 °C to + 80 °C.

Type BTD (ball diverter)

The product in the conveyor line is deflected by the swaying valve in the casing. It is driven by a rotation cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The diverter's casing is pressure resistant for 7 bar. To control this, the casing undergoes a hydraulic test in accordance with VDI 2263, Sheet 3, before delivery. The operating pressure is 0,5 bar to 7 bar. The medium temperature is – 10 °C to + 150 °C.

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Type GPD (rotating pipe diverter for unpressurised operation)

The product in the conveyor line is deflected by the rotating ball in the casing. It is driven by a rotation cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The operating pressure is 1 bar. The medium temperature is – 10 °C to + 80 °C.

Type TDV (hose diverter)

The product in the conveyor line is deflected by the moving hose. It is driven by an electro-pneumatic cylinder that is operated by a magnetic valve. Mechanic switches indicate when the pipe rotates. The operating pressure is 0,5 bar to 2 bar. The medium temperature is – 25 °C to + 65 °C.

Type M-TDV (multi-way diverter)

The product in the conveyor line is deflected by the rotating bent pipe. It is driven by a frequency-controlled gear motor. The equipment's electronic control is not part of this EC-type examination. The operating pressure is 0,5 bar to 2 bar or 0,5 bar to 4 bar. The medium temperature is – 15 °C to + 80 °C.

15.3 Parameters

Table 1: Compilation of the diverters

type	dimensions	design			
		pneumatic drive	pneumatic cylinder	manual drive	electric drive
PTD-II	50-65-80-100-125-150-200				
PTD-sp	150-175-200-250-300-350				
FDV-P	50-65-80-100-125-150	1A 2A 3A	1C 2C 3C	1H 2H 3H	1E 2E 3E
FDV-F	50-65-80-100-125-150-200-250				
FVV-P	50-65-80-100-125-150				
FVV-F	50-65-80-100-125-150				
BTD	65-80-100-125-150-250	1A			
GPD	150-200-250-300	1A 2A 3A		1H 2H 3H	1E 2E 3E
TDV	40-50-65-80-100-125-150-200				
M-TDV	40-50-65-80-100-125-150-200				

Table 2: Key for use

material	1	cast iron
	2	aluminium
	3	stainless steel

design	A	pneumatic drive
	C	pneumatic cylinder
	E	electric drive
	H	manual drive

The diverters are operated in the following ambient temperature range:

- 20 °C to + 40 °C

(16) Test and Assessment Report

BVS PP 1100/104f/03 EG, as of 13 May 2004

(17) Special Conditions for Safe Use

The diverters have to be grounded; i.e. the resistance to earth must be $< 10^6$ Ω.

The drives (pneumatic or electric) are not part of this test and assessment report. Suitable drives of the same or of a category higher than that of the diverters have to be used.

The diverters' maximum surface temperatures significantly depend on the temperature of the medium conveyed. The maximum surface temperature resulting from the temperature of the medium conveyed as well as the resulting temperature classes of the gases can be drawn from table 3:

Table 3: Interrelation of the temperature of the medium conveyed, the maximum surface temperature and the temperature class for gases

temperature of the medium conveyed	maximum surface temperature	temperature class
70 °C	90 °C	T5
80 °C	100 °C	
90 °C	110 °C	T4
100 °C	120 °C	
110 °C	130 °C	
115 °C	135 °C	
120 °C	140 °C	T3
130 °C	150 °C	
140 °C	160 °C	
150 °C	170 °C	

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TRANSLATION

EXAM
BBG Prüf- und Zertifizier GmbH

1. Supplement

(1) **(Supplement in accordance with Directive 94/9/EC Annex III Number 6)**

(2) **To the EC-Type Examination Certificate**

(3) **BVS 03 ATEX H 046 X**

(4) **Equipment:** **Diverters of types PTD-II, PTD-sp, GPD, FDV, FVV, BTD, TDV, M-TDV**

(5) **Manufacturer:** **DMN Machinefabriek Noordwijkerhout B.V.**

(6) **Address:** **16, 's-Gravendamseweg, 2211 WJ, Bedrijventerrein Gravendam, P.O. Box 6, 2211 AA, Noordwijkerhout, Holland, The Netherlands**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this supplement.

(8) The certification body of EXAM BBG Prüf- und Zertifizier GmbH certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in the test and assessment reports BVS PP 1100/104f/03 EG and BVS PP 1100/104f/03 EG N1.

(9) The Essential Health and Safety Requirements are assured by compliance with:

DIN EN 1127-1: Explosion protection, Part 1: Basic principles and methodology
DIN EN 13463-1:2002, Non-electrical equipment for use in potentially explosive areas, Part 1: Basic principles and requirements, with corrections
DIN EN 13463-5:2004, Non-electrical equipment for use in potentially explosive areas, Part 5: Protection by constructional safety "c"
CLC TR50404:2003, Electrostatics - Code of practice for the avoidance of hazards due to static electricity

(10) The marking of the equipment shall include the following:

Ex **II 1D/2 GD c** or Ex **II 1D/3 GD c** or Ex **II 1D/- c**

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 21 October 2005

Signed: Dr Jockers
Certification body

Signed: Dr Wörsdörfer
Special services unit

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EXAM
BBG Prüf- und Zertifizier GmbH

(11) Schedule to

(12) # 1. Supplement

(13) # to the EC-Type Examination Certificate

BVS 03 ATEX H 046 X

(14) 14.1 Subject and Type

Diverters in accordance with table 1.

14.2 Description

The diverters are intended for distributing and collecting powders and granules in pneumatic conveyors.

Type PTD-II (two-way pipe diverter)

The product in the conveyor line is deflected by the rotating ball in the casing. It is driven by an integrated pneumatic cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches indicate when the pipe rotates. All electric components are connected to the terminal box. The casings of installation sizes 50-65-80-100-125-150 are pressure resistant for 10 bar, the casing of installation size 200 is pressure resistant for 4 bar. To control this, the casing undergoes a hydraulic test in accordance with DIN EN 14460:2002 before delivery. The operating pressure is 0,5 bar to 4 bar or 0,5 bar to 7 bar. The medium temperature is – 25 °C to + 80 °C.

Type PTD-sp (single-channel pipe diverter)

The product in the conveyor line is deflected by the rotating ball in the casing. It is driven by a rotation cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches indicate when the pipe rotates. All electric components are connected to the terminal box. The diverter's casing is pressure resistant for 10 bar. To control this, the casing undergoes a hydraulic test in accordance with DIN EN 14460:2002 before delivery. The operating pressure is 0,5 bar to 4,5 bar or 0,5 bar to 7 bar. The medium temperature is – 25 °C to + 120 °C.

Type FDV valve diverter) and type FVV (T-diverter)

The product in the conveyor line is deflected by the swaying valve in the casing. It is either driven by a pneumatic linear cylinder or by a pneumatic rotation cylinder that is operated by a magnetic valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The diverter's casing is pressure resistant for 3 bar. To control this, the casing undergoes a hydraulic test in accordance with DIN EN 14460:2002 before delivery. The operating pressure is 0,7 bar to 3 bar for type FDV or 0,7 bar to 2 bar for type FVV. The medium temperature is – 25 °C to + 80 °C.

Type BTD (ball diverter)

The product in the conveyor line is deflected by the swaying valve in the casing. It is driven by a rotation cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The diverter's casing is pressure resistant for 7 bar. To control this, the casing undergoes a hydraulic test in accordance with DIN EN 14460:2002 before delivery. The operating pressure is 0,5 bar to 7 bar. The medium temperature is – 10 °C to + 150 °C.

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Type GPD (rotating pipe diverter for unpressurised operation)

The product in the conveyor line is deflected by the rotating ball in the casing. It is driven by a rotation cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The operating pressure is 1 bar. The medium temperature is – 10 °C to + 80 °C.

Type TDV (hose diverter)

The product in the conveyor line is deflected by the moving hose. It is driven by an electro-pneumatic cylinder that is operated by a magnetic valve. Mechanic switches indicate when the pipe rotates. The operating pressure is 0,5 bar to 2 bar. The medium temperature is – 25 °C to + 65 °C.

Type M-TDV (multi-way diverter)

The product in the conveyor line is deflected by the rotating bent pipe. It is driven by a frequency-controlled gear motor. The equipment's electronic control is not part of this EC-type examination. The operating pressure is 0,5 bar to 2 bar or 0,5 bar to 4 bar. The medium temperature is – 15 °C to + 80 °C.

Table 1: Compilation of the diverters

Type	Size	Design			
		pneumatic drive	pneumatic cylinder	manual drive	electric drive
PTD-II	50-65-80-100-125-150-200				
PTD-sp	150-175-200-250-300-350				
FDV-P	50-65-80-100-125-150	1A	1C	1H	1E
FDV-F	50-65-80-100-125-150-200-250	2A	2C	2H	2E
FVV-P	50-65-80-100-125-150	3A	3C	3H	3E
FVV-F	50-65-80-100-125-150				
BTD	65-80-100-125-150-250	1A			
GPD	150-200-250-300	1A 2A 3A		1H 2H 3H	1E 2E 3E
TDV	40-50-65-80-100-125-150-200				
M-TDV	40-50-65-80-100-125-150-200				

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Table 2: Key for use

material	1	cast iron
	2	aluminium
	3	stainless steel

design	A	pneumatic drive
	C	pneumatic cylinder
	E	electric drive
	H	manual drive

The diverters are operated in the following ambient temperature range:

- 20 °C to + 40 °C

This supplement contains the following extensions:

The diverters are also used in areas in which there is no potentially explosive atmosphere, i.e. in this case, the diverters' outside is classified into no category.

The diverter type GPD is used for media temperatures of up to 170 °C. If the medium temperatures are in between 150 °C and 170 °C, sealed deep groove ball bearings with PTFE-shaft seal are used.

(15) Test and Assessment Report

BVS PP 1100/104f/03 EG, as of 13 May 2005
BVS PP 1100/104f/03 EG N1, as of 21 October 2005

(16) Special Conditions for Safe Use

The diverters have to be grounded; i.e. the resistance to earth must be $< 10^6\ \Omega$.

The drives (pneumatic or electric) are not part of this test and assessment report. Suitable drives of the same or of a category higher than that of the diverters have to be used.

The diverters' maximum surface temperatures significantly depend on the temperature of the medium conveyed. The maximum surface temperature resulting from the temperature of the medium conveyed as well as the resulting temperature classes of the gases can be drawn from table 3:

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Table 3: Interrelation of the temperature of the medium conveyed, the maximum surface temperature and the temperature class for gases

temperature of the medium conveyed	maximum surface temperature	temperature class
70 °C	90 °C	T5
80 °C	100 °C	
90 °C	110 °C	T4
100 °C	120 °C	
110 °C	130 °C	
115 °C	135 °C	
120 °C	140 °C	T3
130 °C	150 °C	
140 °C	160 °C	
150 °C	170 °C	
160 °C	180 °C	
170 °C	190 °C	

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2. Supplement

(1) **(Supplement in accordance with Directive 94/9/EC Annex III Number 6)**

(2) **to the EC-Type Examination Certificate**

(3) **BVS 03 ATEX H 046 X**

(4) **Equipment:** **Diverters of types PTD-II, PTD-sp, GPD, FDV, FVV, BTD, TDV, M-TDV, 2-TDV, 3-TDV**

(5) **Manufacturer:** **DMN Machinefabriek Noordwijkerhout B.V.**

(6) **Address:** **Gieterij 3, 2211 WC, P. O. Box 6, 2211 AA, Noordwijkerhout, Holland, The Netherlands**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this supplement.

(8) The certification body of DEKRA EXAM GmbH, Notified Body No. 0158 according to Article 9 of Directive 94/9/EC of the European Parliament and the Council of 23 March 1994 certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the test and assessment reports BVS PP 1100/104f/03 EG, BVS PP 1100/104f/03 EG N1 and BVS PP 1100/104f/03 EG N2.

(9) The Essential Health and Safety Requirements are assured by compliance with:

- DIN EN 1127-1: Explosion protection, Part 1: Basic principles and methodology
- DIN EN 13463-1:2002, Non-electrical equipment for use in potentially explosive areas, Part 1: Basic principles and requirements, with corrections
- DIN EN 13463-5:2004, Non-electrical equipment for use in potentially explosive areas, Part 5: Protection by constructional safety "c"
- CLC TR50404:2003, Electrostatics - Code of practice for the avoidance of hazards due to static electricity

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

Ⓔx II 1D/2 GD c or **Ⓔx II 1D/3 GD c** or **Ⓔx II 1D/- c**

DEKRA EXAM GmbH

Bochum, dated 21 May 2008

Signed: Dr Jockers
Certification body

Signed: Dr Wörsdörfer
Special services unit

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(13) Schedule to

(14)

2. Supplement
to the EC-Type Examination Certificate
BVS 03 ATEX H 046 X

(15) 15.1 Subject and Type

Diverters in accordance with table 1

15.2 Description

The diverters are intended for distributing and collecting powders and granules in pneumatic conveyors.

Type PTD-II (two-way pipe diverter)

The product in the conveyor line is deflected by the rotating ball in the casing. It is driven by an integrated pneumatic cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches indicate when the pipe rotates. All electric components are connected to the terminal box. The casings of installation sizes 50-65-80-100-125-150 are pressure resistant for 10 bar, the casing of installation size 200 is pressure resistant for 4 bar. To control this, the casing undergoes a hydraulic test in accordance with DIN EN 14460:2002 before delivery. The operating pressure is 0.5 bar to 4 bar or 0.5 bar to 7 bar. The medium temperature is -25 °C to +80 °C.

Type PTD-sp (single-channel pipe diverter)

The product in the conveyor line is deflected by the rotating ball in the casing. It is driven by a rotation cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches indicate when the pipe rotates. All electric components are connected to the terminal box. The diverter's casing is pressure resistant for 10 bar. To control this, the casing undergoes a hydraulic test in accordance with DIN EN 14460:2002 before delivery. The operating pressure is 0.5 bar to 4.5 bar or 0.5 bar to 7 bar. The medium temperature is -25 °C to +120 °C.

Type FDV (valve diverter) and type FVV (T-diverter)

The product in the conveyor line is deflected by the swaying valve in the casing. It is either driven by a pneumatic linear cylinder or by a pneumatic rotation cylinder that is operated by a magnetic valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The diverter's casing is pressure resistant for 3 bar. To control this, the casing undergoes a hydraulic test in accordance with DIN EN 14460:2002 before delivery. The operating pressure is 0.7 bar to 3 bar for type FDV or 0.7 bar to 2 bar for type FVV. The medium temperature is -25 °C to + 80 °C.

Type BTD (ball diverter)

The product in the conveyor line is deflected by the swaying valve in the casing. It is driven by a rotation cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The diverter's casing is pressure resistant for 7 bar. To control this, the casing undergoes a hydraulic test in accordance with DIN EN 14460:2002 before delivery. The operating pressure is 0.5 bar to 7 bar. The medium temperature is -10 °C to +150 °C.

Type GPD (rotating pipe diverter for unpressurised operation)

The product in the conveyor line is deflected by the rotating ball in the casing. It is driven by a rotation cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The operating pressure is 1 bar. The medium temperature is -10 °C to +80 °C.

Type TDV (hose diverter)

The product in the conveyor line is deflected by the moving hose. It is driven by an electro-pneumatic cylinder that is operated by a magnetic valve. Mechanic switches indicate when the pipe rotates. The operating pressure is 0.5 bar to 2 bar. The medium temperature is -25 °C to +65 °C.

Type M-TDV (multi-way diverter)

The product in the conveyor line is deflected by the rotating bent pipe. It is driven by a frequency-controlled gear motor. The equipment's electronic control is not part of this EC-type examination. The operating pressure is 0.5 bar to 2 bar or 0.5 bar to 4 bar. The medium temperature is -15 °C to +80 °C.

Type 2-TDV (distribution diverter)

The product in the conveyor line is deflected by the rotating bent pipe. It is driven by a rotation cylinder that is operated by a control valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The operating pressure is 0.5 bar(a) to 2 bar(a) (static gasket) or 0.2 bar(a) to 4 bar(a) (dynamic gasket). The medium temperature is -25°C to +100°C, short-term operation +130 °C.

Type 3-TDV (distribution diverter)

The product in the conveyor line is deflected by the rotating bent pipe. It is driven by a three-position rotation cylinder as well as by a pneumatic cylinder, so that the goose neck is perfectly directed towards the chosen pipe. Both the rotation cylinder and the pneumatic cylinder are operated by a control valve. Inductive proximity switches or mechanic switches in a signal box indicate when the pipe rotates. The operating pressure is 0.2 bar(a) to 4 bar(a) (dynamic gasket). The medium temperature is -25°C to +100°C, short-term operation +130 °C.

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Table 1: Compilation of the diverters

Type	Size	Design			
		pneumatic drive	pneumatic cylinder	manual drive	electric drive
PTD-II	50-65-80-100-125-150-200	1A 2A 3A	1C 2C 3C	1H 2H 3H	1E 2E 3E
PTD-sp	150-175-200-250-300-350				
FDV-P	50-65-80-100-125-150				
FDV-F	50-65-80-100-125-150-200-250				
FVV-P	50-65-80-100-125-150				
FVV-F	50-65-80-100-125-150				
BTD	65-80-100-125-150-250	1A			
GPD	150-200-250-300	1A 2A 3A		1H 2H 3H	1E 2E 3E
TDV	40-50-65-80-100-125-150-200				
M-TDV	40-50-65-80-100-125-150-200				

The diverters PTD-II, PTD-sp, GPD, FDV, FVV, BTD, TDV and M-TDV are operated in the following ambient temperature range:

-20 °C to +40 °C

Table 1a: Compilation of the diverters (continued)

Type	Size	Design
		gasket
2-TDV	40-50-65-80-100-125-150	2STA 3STA 2DYN 3DYN
3-TDV	40-50-65-80-100-125-150	2DYN 3DYN

The diverters 2-TDV and 3-TDV are operated in the following ambient temperature range:

-10 °C to +40 °C

Table 2: Key for use

material	1	cast iron
	2	aluminium
	3	stainless steel

design	A	pneumatic drive
	C	pneumatic cylinder
	E	electric drive
	H	manual drive
	STA	static gasket
	DYN	dynamic gasket

This supplement contains the following extensions:

The scope of this EC-Type Examination Certificate is extended by the diverter types 2-TDV and 3-TDV, which are a combination of the types TDV and M-TDV. These diverter types are operated in the following ambient temperature range: -10 °C to +40 °C.

(16) Test and Assessment Report

BVS PP 1100/104f/03 EG, as of 13 May 2005
BVS PP 1100/104f/03 EG N1, as of 21 October 2005
BVS PP 1100/104f/03 EG N2, as of 21 May 2008

(17) Special Conditions for Safe Use

The diverters have to be grounded; i.e. the resistance to earth must be < 10^6 Ω.

The drives (pneumatic or electric) are not part of this test and assessment report. Suitable drives of the same or of a category higher than that of the diverters have to be used.

The diverters' maximum surface temperatures significantly depend on the temperature of the medium conveyed. The maximum surface temperature resulting from the temperature of the medium conveyed as well as the resulting temperature classes of the gases can be drawn from table 3:

Table 3: Interrelation of the temperature of the medium conveyed, the maximum surface temperature and the temperature class for gases

temperature of the medium conveyed	maximum surface temperature	temperature class
70 °C	90 °C	T5
80 °C	100 °C	
90 °C	110 °C	T4
100 °C	120 °C	
110 °C	130 °C	
115 °C	135 °C	
120 °C	140 °C	T3
130 °C	150 °C	
140 °C	160 °C	
150 °C	170 °C	
160 °C	180 °C	
170 °C	190 °C	

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