

FIRE TEST CERTIFICATE

Certification No. : FTC-DKC-20130908-BUTTERFLY001

Ref. Test Report No.: DKC-130830-001

This is to certify that the below materials have been inspected by Velosi Korea and found to be satisfactory in the Fire Test in accordance with API 607, sixth edition / EN ISO 10497 : 2010(E) / API 6FD, first edition : 2008 reaffirmed.

Manufacturer : **DKC CO., LTD.**
 Location : 18, Yuha-ro, 59Beon-gil, Gimhae-si, Gyeongsangnam-do, Korea
 Location of Test : 18, Yuha-ro, 59Beon-gil, Gimhae-si, Gyeongsangnam-do, Korea

1. Description of Test Valve :

Valve Model No.	TR-FL-RF-020
Valve Drawing No.	DA03A2C020-A000-A
Type of Test Valve	Triple Offset Butterfly Valve
Description of Test Valve	Full Bore, Laminated Seat, Flanged
Valve Size (NPS)	NPS 8
Pressure Rating (ANSI Class)	150#
Valve Body Material	ASTM A216 WCB
Valve Seat Material	UNS 31803 + GRAPHITE(Laminated)
Seat Configuration	Symmetric, Bi-directional Service
Valve Weight	55 kg
Date of Test	August 30, 2013

2. Qualified Range of Valve :

Qualified Sizes (NPS)	8" and Above
Qualified Pressure Ratings (ANSI Class)	#150, #300
Qualified Valve Material	Ferritic

This certificate is issued in accordance with API 607, 6th edition / EN ISO 10497 : 2010(E), based on the result of test report on above mentioned test valve. For detailed reports of tested valve, see the Appendix 1 of this certificate. The additional valve qualification shall be limited on the valves according to para.7 requirements.




FIRE TEST CERTIFICATE

Certification No. : FTC-DKC-20140331-BUTTERFLY007
Ref. Test Report No.: DKC-140328-03

This is to certify that the below materials have been inspected by Velosi Korea and found to be satisfactory in the Fire Test in accordance with API 607, sixth edition / EN ISO 10497 : 2010(E).

Manufacturer : **DKC CO., LTD.**
Location : 15Bun-gil, Mieumsan-dan 1ro, Kangseo-gu, Busan-city, Korea
Location of Test : 15Bun-gil, Mieumsan-dan 1ro, Kangseo-gu, Busan-city, Korea

1. Description of Test Valve :

Valve Model No.	TR-FL-RF-120
Valve Drawing No.	DA03A2C020-B004-A
Type of Test Valve	Triple Offset Butterfly Valve
Description of Test Valve	Full Bore, Laminated Seat, Flanged
Valve Size (NPS)	NPS 8
Pressure Rating (ANSI Class)	#600
Valve Body Material	ASTM A351 CF8M
Valve Seat Material	UNS 31803 + GRAPHITE(Laminated)
Seat Configuration	Symmetric, Bi-directional Service
Valve Weight	162 kg
Date of Test	March 28, 2014

2. Qualified Range of Valve :

Qualified Sizes (NPS)	8" and larger
Qualified Pressure Ratings (ANSI Class)	#600, #800, #900
Qualified Valve Material	Austenitic

This certificate is issued in accordance with API 607, 6th edition / EN ISO 10497 : 2010(E), based on the result of test report on above mentioned test valve. For detailed reports of tested valve, see the Appendix 1 of this certificate. The additional valve qualification shall be limited on the valves according to para.7 requirements.




FIRE TEST CERTIFICATE

Certification No. : FTC-DKC-20140315-BUTTERFLY001
Ref. Test Report No.: DKC-20140310-001

This is to certify that the below materials have been inspected by Velosi Korea and found to be satisfactory in the Fire Test in accordance with API 607, sixth edition / EN ISO 10497 : 2010(E).

Manufacturer : **DKC VALVE CO., LTD.**
Location : 15BUN-GIL 1-RO, MIEUMSAN-DAN, KANGSEO-GU, BUSAN, KOREA
Location of Test : #775, YUHA-RI, JUNGYU-MYEON, KIMHAE-CITY, KYUNGSANGNAM-DO, KOREA
(DKC 2nd Factory)

1. Description of Test Valve :

Valve Model No.	C1227239-B3VH-WCB-150P-ND50
Type of Test Valve	Duplex Butterfly Valve
Description of Test Valve	Full Bore, Laminate Seat, Flanged
Valve Size (NPS)	NPS 2
Pressure Rating (ANSI Class)	150#
Valve Body Material	ASTM A890 5A
Valve Seat Material	PTFE
Seat Configuration	Reinforced Teflon
Valve Weight	3.0 kg
Valve Drawing No.	C1227239-B3VH-WCB-150P-ND50
Date of Test	March 10, 2014

2. Qualified Range of Valve :

Qualified Sizes (NPS)	2 " and below; 2-1/2"; 3"; 4"
Qualified Pressure Ratings (ANSI Class)	#150; #300
Qualified Valve Material	Duplex

This certificate is issued in accordance with API 607, 6th edition / EN ISO 10497 : 2010(E), based on the result of test report on above mentioned test valve. For detailed reports of tested valve, see the Appendix 1 of this certificate. The additional valve qualification shall be limited on the valves according to para.7 requirements.



Hee-Hyun Kim

FIRE TEST CERTIFICATE

Certification No. : FTC-DKC-20130908-CHECK010

Ref. Test Report No.: DKC-130829-002

This is to certify that the below materials have been inspected by Velosi Korea and found to be satisfactory in the Fire Test in accordance with API 607, sixth edition / EN ISO 10497 : 2010(E) / API 6FD, first edition : 2008 reaffirmed.

Manufacturer : **DKC CO., LTD.**
 Location : 18, Yuha-ro, 59Beon-gil, Gimhae-si, Gyeongsangnam-do, Korea
 Location of Test : 18, Yuha-ro, 59Beon-gil, Gimhae-si, Gyeongsangnam-do, Korea

1. Description of Test Valve :

Valve Model No.	ED00A2A005
Valve Drawing No.	ED00A2A005-A000-A
Type of Test Valve	Dual Plate Check Valve
Description of Test Valve	2pcs Body, Full Bore, PTFE Seat, Flanged
Valve Size (NPS)	NPS 2
Pressure Rating (ANSI Class)	150#
Valve Body Material	ASTM A351 CF8M
Valve Seat Material	PTFE
Seat Configuration	Directional Service
Valve Weight	3 kg
Date of Test	August 29, 2013

2. Qualified Range of Valve :

Qualified Sizes (NPS)	2" and below, 2-1/2", 3", 4"
Qualified Pressure Ratings (ANSI Class)	#150, #300
Qualified Valve Material	Austenitic

This certificate is issued in accordance with API 607, 6th edition / EN ISO 10497 : 2010(E), based on the result of test report on above mentioned test valve. For detailed reports of tested valve, see the Appendix 1 of this certificate. The additional valve qualification shall be limited on the valves according to para.7 requirements.




FIRE TEST CERTIFICATE

Certification No. : FTC-DKC-20130908-CHECK009

Ref. Test Report No.: DKC-130829-001

This is to certify that the below materials have been inspected by Velosi Korea and found to be satisfactory in the Fire Test in accordance with API 607, sixth edition / EN ISO 10497 : 2010(E) / API 6FD, first edition : 2008 reaffirmed.

Manufacturer : **DKC CO., LTD.**
 Location : 18, Yuha-ro, 59Beon-gil, Gimhae-si, Gyeongsangnam-do, Korea
 Location of Test : 18, Yuha-ro, 59Beon-gil, Gimhae-si, Gyeongsangnam-do, Korea

1. Description of Test Valve :

Valve Model No.	ED00A2A020
Valve Drawing No.	ED00A2A020-A000-A
Type of Test Valve	Dual Plate Check Valve
Description of Test Valve	2pcs Body, Full Bore, NBR Seat, Flanged
Valve Size (NPS)	NPS 8
Pressure Rating (ANSI Class)	150#
Valve Body Material	ASTM A351 CF8M
Valve Seat Material	NBR
Seat Configuration	Directional Service
Valve Weight	36 kg
Date of Test	August 29, 2013

2. Qualified Range of Valve :

Qualified Sizes (NPS)	8" and Above
Qualified Pressure Ratings (ANSI Class)	#150, #300
Qualified Valve Material	Austenitic

This certificate is issued in accordance with API 607, 6th edition / EN ISO 10497 : 2010(E), based on the result of test report on above mentioned test valve. For detailed reports of tested valve, see the Appendix 1 of this certificate. The additional valve qualification shall be limited on the valves according to para.7 requirements.


