

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the LR Type Approval System.

This certificate is issued to:

PRODUCER	PIX Transmissions Limited J-7, MIDC, Hingna Road Nagpur-440016, Maharashtra, India
PLACE OF PRODUCTION	UNIT-II, Bazargaon, Amravati Road, Nagpur city, Maharashtra, 440023, India
DESCRIPTION	High pressure, fire resistant flexible hoses of non-metallic material with or without permanently attached end fittings
TYPE	PIX-ARMOUR-R12 PIX-ARMOUR-R15
APPLICATION	Suited for hydraulic circuit in severe abrasion condition, marine application, underground and open pit mining
DESIGN CODE STANDARD	Part 5, Chapter 12 of Lloyd's Register's Rules and Regulations for the Classification of Ships, July 2010 SAE J517 Grade 100R15/100R12, November 2008 Fire Resistant Testing according to ISO 15540/15541
RATINGS	Sizes : DN10 to DN51 Maximum Working Pressure : 28.0/42.0 MPa Working temperature Hydraulic fluid : - 40 °C ~ +120 °C Water based fluid : - 40 °C ~ +70 °C Water : 0 °C ~ +70 °C

Certificate No.	11/10057
Issue Date	27 June 2011
Expiry Date	26 June 2016
Sheet	1 of 2

Y. Sawada
Y. Sawada
Yokohama Design Support Office
Lloyd's Register

Lloyd's Register, registered office:
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PLACE OF PRODUCTION	UNIT-II, Bazargaon, Amravati Road, Nagpur city, Maharashtra, 440023, India
DESCRIPTION	High pressure, fire resistant flexible hoses of non-metallic material with or without permanently attached end fittings.
TYPE	PIX-HIPULSE-4SP PIX-HIPULSE-4SH
APPLICATION	Heavy duty impulsive high pressure hydraulic systems for marine, mining, offshore and general industrial applications like excavators, dosers, dumpers, cranes, compactors, rock breakers and hydraulic drill rigs and other construction equipments
DESIGN CODE STANDARD	Part 5, Chapter 12 of Lloyd's Register's Rules and Regulations for the Classification of Ships, July 2010 DIN EN 856 Type 4SP/4SH, February 1997 Fire Resistant Testing according to ISO 15540/15541
RATINGS	Sizes : DN10 to DN51 (4SP) DN16 to DN51 (4SH) Maximum Working Pressure: 18.0 to 46.0 MPa (4SP) 25.0 to 45.0 MPa (4SH) Working temperature Hydraulic fluid : -40 °C ~ +100 °C Water based fluid : -40 °C ~ +70 °C Water : 0 °C ~ +70 °C
Certificate No.	11/10055
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PLACE OF PRODUCTION	UNIT-II, Bazargaon, Amravati Road, Nagpur city, Maharashtra, 440023, India
DESCRIPTION	High pressure, fire resistant flexible hoses of non-metallic material with or without permanently attached end fittings.
TYPE	PIX-THERMAL-1SN PIX-THERMAL-2SN
APPLICATION	Medium to high pressure hydraulic lines suitable for marine, mining, offshore and general industrial applications up to operating temperature of 135 °C
DESIGN CODE STANDARD	Part 5, Chapter 12 of Lloyd's Register's Rules and Regulations for the Classification of Ships, July 2010 DIN EN 853 Type 1SN/2SN, February 1997 Fire Resistant Testing according to ISO 15540/15541
RATINGS	Sizes : DN6 to DN51 Maximum Working Pressure : 4.0 to 22.5 MPa (1SN) 8.0 to 40.0 MPa (2SN) Working temperature Hydraulic fluid : - 40 °C ~ +135 °C
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PLACE OF PRODUCTION	UNIT-II, Bazargaon, Amravati Road, Nagpur city, Maharashtra, 440023, India
DESCRIPTION	High pressure, fire resistant flexible hoses of non-metallic material with or without permanently attached end fittings.
TYPE	PIX-PROKOMP-1SC PIX-PROKOMP-2SC
APPLICATION	Medium to high pressure hydraulic lines suitable for marine, mining, offshore and general industrial applications
DESIGN CODE STANDARD	Part 5, Chapter 12 of Lloyd's Register's Rules and Regulations for the Classification of Ships, July 2010 DIN EN 857 Type 1SC/2SC, February 1997 SAE J517 Grade 100R16 Type S, November 2008 Fire Resistant Testing according to ISO 15540/15541
RATINGS	Sizes : DN6 to DN25 (1SC) DN6 to DN31 (2SC) Maximum Working Pressure : 9.0 to 22.5 MPa (1SC) 12.5 to 40.0 MPa (2SC) Working temperature Hydraulic fluid : -40 °C ~ +100 °C Water base fluid : -40 °C ~ +70 °C Water : 0 °C ~ +70 °C Air : 0 °C ~ +70 °C
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PLACE OF PRODUCTION	UNIT-II, Bazargaon, Amravati Road, Nagpur city, Maharashtra, 440023, India
DESCRIPTION	High pressure, fire resistant flexible hoses of non-metallic material with or without permanently attached end fittings
TYPE	PIX-PERFORMER-1SN PIX-PERFORMER-2SN
APPLICATION	Medium to high pressure hydraulic lines suitable for marine, mining, offshore and general industrial applications
DESIGN CODE STANDARD	Part 5, Chapter 12 of Lloyd's Register's Rules and Regulations for the Classification of Ships, July 2010 DIN EN 853 Type 1SN/2SN, February 1997 SAE J517 Grade 100R1/R2 Type AT, November 2008 Fire Resistant Testing according to ISO 15540/15541
RATINGS	Sizes : DN5 to DN102 Maximum Working Pressure : 2.5 to 25.0 MPa (1SN) 4.0 to 45.0 MPa (2SN) Working temperature Hydraulic fluid : - 40 °C ~ +100 °C Water base fluid : - 40 °C ~ +70 °C Water : 0 °C ~ +70 °C Air : 0 °C ~ +70 °C
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PLACE OF PRODUCTION	UNTT-II, Bazargaon, Amravati Road, Nagpur city, Maharashtra, 440023, India
DESCRIPTION	High pressure, fire resistant flexible hoses of non-metallic material with or without permanently attached end fittings.
TYPE	PIX-OPTIMAL-210 PIX-OPTIMAL-280
APPLICATION	Wide range of pressure with the condensed product range specially for mobile van application and also suitable for medium to high pressure hydraulic lines for marine, mining, offshore and general industrial applications
DESIGN CODE STANDARD	Part 5, Chapter 12 of Lloyd's Register's Rules and Regulations for the Classification of Ships, July 2010 SAE J517 Grade 100R17/100R19, November 2008 Fire Resistant Testing according to ISO 15540/15541
RATINGS	Sizes : DN6 to DN25 Maximum Working Pressure: 21.0/28.0 MPa Working temperature Hydraulic fluid : -40 °C ~ +100 °C Water base fluid : -40 °C ~ +70 °C Water : 0 °C ~ +70 °C
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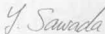
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PLACE OF PRODUCTION	UNIT-II, Bazargaon, Amravati Road, Nagpur city, Maharashtra, 440023, India
DESCRIPTION	High pressure, fire resistant flexible hoses of non-metallic material with or without permanently attached end fittings.
TYPE	PIX-IMPETUS-280 PIX-IMPETUS-350 PIX-IMPETUS-420
APPLICATION	Heavy duty impulsive high pressure hydraulic systems for marine, mining, offshore and general industrial applications like excavators, dosers, dumpers, cranes, compactors, rock breakers and hydraulic drill rigs and other construction equipments
DESIGN CODE STANDARD	Part 5, Chapter 12 of Lloyd's Register's Rules and Regulations for the Classification of Ships, July 2010 DIN EN 856 Type R12/R13, February 1997 SAE J517 Grade 100R12/100R13/100R15, November 2008 Fire Resistant Testing according to ISO 15540/15541
RATINGS	Sizes : DN10 to DN51 Maximum Working Pressure : 28.0/35.0/42.0 MPa Working temperature Hydraulic fluid : - 40 °C ~ +120 °C Water based fluid : - 40 °C ~ +70 °C Water : 0 °C ~ +70 °C
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PLACE OF PRODUCTION	UNIT-II, Bazargaon, Amravati Road, Nagpur city, Maharashtra, 440023, India
DESCRIPTION	High pressure, fire resistant flexible hoses of non-metallic material with or without permanently attached end fittings
TYPE	PIX-ULTRAFLEX-1SN PIX-ULTRAFLEX-2SN PIX-ULTRAFLEX-R12
APPLICATION	Medium to high pressure hydraulic lines suitable for marine, mining, offshore and general industrial applications even at very low bend radius.
DESIGN CODE STANDARD	Part 5, Chapter 12 of Lloyd's Register's Rules and Regulations for the Classification of Ships, July 2010 DIN EN 853 Type 1SN/2SN, February 1997 DIN EN 856 Type R12, February 1997 SAE J517 Grade 100R1 Type AT/100R2 Type AT/100R12, November 2008 Fire Resistant Testing according to ISO 15540/15541
RATINGS	Sizes : DN6 to DN25 (1SN/2SN) DN10 to DN25 (R12) Maximum Working Pressure : 9.0 to 22.5 MPa (1SN) 16.5 to 40.0 MPa (2SN) 28.0 MPa (R12)
Certificate No.	11/10054
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