

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Tank Washing Machine**

with type designation(s)

POLAR JET® PJ15, PJ15 CPT, PJ15 ECO, PJ15 MAGNETIC, PJ15 MAGNETIC ECO, PJ25, PJ30, PJ30 ECO, PJ30 MAGNETIC, PJ30 MAGNETIC ECO, PJ50, PJ120, PJ120 CPA, PJ120 MAGNETIC, PJ120 RETRACTABLE TYPE, PJ120 SPLIT TYPE, PJ120 SWINGABLE TYPE, PJ123 and PJ303

Issued to

Polarmarine, Inc.
Olongapo City, Philippines

is found to comply with

TYPE APPROVAL FOR CRUDE OIL WASHING (COW) MACHINES**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**This Certificate is valid until **2019-09-20**.Issued at **Høvik** on **2016-06-17**for **DNV GL**DNV GL local station: **Manila**Approval Engineer: **Pål Evang Nundal**

Dag Sæle-Nilsen
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

TANK WASHING MACHINE

Design:

PJ-25 and -50:

Non-programmable dual nozzle submerged washing machine with integrated drive unit.

PJ-15, -30, -120, -123 and -303

Programmable single nozzle deck mounted fixed tank washing machine with integrated drive unit.

Options:

- PJ-15, PJ-15 ECO, PJ-15 MAGNETIC, PJ-15 ECO MAGNETIC
- PJ-30, PJ-30 ECO, PJ-30 MAGNETIC, PJ-30 ECO MAGNETIC
- PJ-120, PJ-120 MAGNETIC, PJ-120 SPLIT TYPE, PJ-120 RETRACTABLE, PJ-120 SWINGABLE, PJ-120 CPA

ECO: Economic

MAGNETIC: Magnetic transmission

SPLIT TYPE: Split in main pipe

RETRACTABLE: Retracted upward for storage purposes

SWINGABLE: Rotated or swing 90

CPA: Pitch, speed and angle limit controls

CPT: dual nozzle version

Materials:

Bronze, Stainless Steel.

Performance data:

Pressure, capacity and throw length:

POLAR JET® PJ-15

Pressure	Nozzle Ø 8 mm		Nozzle Ø 9 mm		Nozzle Ø 10 mm		Nozzle Ø 12 mm		Nozzle Ø 13 mm	
	Bar	m³/h meter	m³/h meter	m³/h meter	m³/h meter	m³/h meter	m³/h meter	m³/h meter	m³/h meter	m³/h meter
12	6.5	19.5	10.0	20.5	13.0	21.5	18.0	23.0	22.0	23.5
11	6.0	18.5	9.0	20.0	12.0	20.5	17.0	22.5	21.0	23.0
10	5.5	18.0	8.0	19.0	11.0	20.0	16.0	21.5	20.0	22.5
9	5.0	17.0	7.5	18.0	10.5	19.0	15.0	20.5	18.5	21.5
8	4.5	16.0	7.0	17.0	10.0	18.0	14.0	19.5	17.0	20.0
7	4.0	15.0	6.0	16.0	9.0	17.0	13.0	18.5	16.0	19.0
6	3.5	14.0	5.5	15.0	8.0	16.0	12.0	17.5	15.0	18.0

Pressure	Nozzle Ø 14 mm		Nozzle Ø 16 mm		Nozzle Ø 18 mm	
Bar	m³/h	meter	m³/h	meter	m³/h	meter
12	26.0	24.0	33.5	26.0	34.5	27.0
11	25.0	23.5	32.5	25.5	33.0	26.0
10	23.0	23.0	31.0	24.5	31.5	25.0
9	22.0	22.0	29.0	23.5	30.0	24.0
8	20.5	21.0	27.0	22.5	28.0	23.0
7	19.5	20.0	25.5	21.5	26.5	22.0
6	18.0	19.0	24.0	20.5	25.0	21.0

Job Id: **262.1-011292-2**
Certificate No: **TAP0000041**

POLAR JET® PJ-25

Pressure	Nozzle Ø 8 mm		Nozzle Ø 9 mm		Nozzle Ø 10 mm		Nozzle Ø 12 mm		Nozzle Ø 14 mm	
Bar	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter
12	9.0	18.5	18.0	20.0	27.0	21.5	38.0	23.0	52.0	25.0
11	8.5	18.0	17.0	19.5	25.5	21.0	36.5	22.5	49.5	24.5
10	8.0	17.0	16.0	18.5	24.5	20.5	34.5	22.0	47.0	23.5
9	7.5	16.0	15.0	17.5	23.0	19.5	33.0	21.0	44.5	22.5
8	7.0	15.0	14.0	16.5	21.5	18.5	31.5	20.0	42.0	21.5
7	6.5	14.0	13.0	15.5	20.5	17.5	29.5	19.0	39.5	20.5
6	6.0	13.0	12.0	14.5	19.0	16.5	28.0	18.0	37.0	19.5

POLAR JET® PJ-25

Pressure	Nozzle Ø 16 mm	
Bar	m³/h	meter
12	64.0	26.5
11	62.0	26.0
10	58.5	25.0
9	55.5	24.0
8	52.0	23.0
7	49.0	22.0
6	46.0	21.0

POLAR JET® PJ-30

Pressure	Nozzle Ø 12 mm		Nozzle Ø 14 mm		Nozzle Ø 16 mm		Nozzle Ø 18 mm		Nozzle Ø 20 mm	
Bar	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter
12	19.0	25.0	27.0	26.5	54.0	31.5	35.0	28.5	44.0	29.5
11	18.0	24.5	26.0	26.0	51.0	31.0	33.5	27.5	42.0	29.0
10	17.0	23.5	24.0	25.5	48.0	30.5	32.0	27.0	39.0	28.5
9	16.0	22.5	23.0	24.5	45.0	29.5	30.0	26.0	37.0	27.5
8	15.0	21.5	22.0	23.5	42.5	28.5	28.5	25.0	34.5	26.5
7	14.0	20.5	20.0	22.5	40.0	27.5	27.0	24.0	32.0	25.5
6	13.0	19.5	19.0	21.5	37.0	26.5	25.0	23.0	30.0	24.5

POLAR JET® PJ-30

Pressure	Nozzle Ø 22 mm		Nozzle Ø 24 mm		Nozzle Ø 25 mm		Nozzle Ø 28 mm		Nozzle Ø 30 mm	
Bar	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter
12	60.0	33.0	69.0	35.0	73.0	36.5	88.0	38.0	103.0	39.5
11	57.0	32.5	65.5	34.5	69.0	36.0	84.0	38.0	99.0	39.0
10	54.0	32.0	62.0	33.5	65.0	35.5	79.5	37.5	93.0	38.5
9	51.0	31.0	58.0	32.5	61.5	34.5	75.0	37.0	88.0	38.0
8	48.0	30.0	54.5	31.5	58.0	33.5	70.5	36.0	83.0	37.5
7	45.0	29.0	51.0	30.5	54.0	32.5	66.0	35.0	77.0	36.5
6	42.0	28.0	47.0	29.5	50.0	31.5	62.0	34.0	72.0	35.5

POLAR JET® PJ-50

Pressure	Nozzle Ø 12 mm		Nozzle Ø 13 mm		Nozzle Ø 14 mm		Nozzle Ø 16 mm		Nozzle Ø 18 mm	
Bar	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter
12	45.0	25.0	50	26.5	56.0	27.5	70.0	30.0	80.0	32.0
11	42.5	24.5	47.5	25.5	53.5	27.0	66.5	29.5	78.0	31.5
10	40.0	24.0	45.0	25.0	51.5	26.5	62.5	29.0	74.0	31.0
9	37.5	23.0	42.5	24.0	48.0	25.5	59.0	28.0	70.0	30.0
8	35.0	22.0	40.0	23.0	45.0	24.5	55.0	27.0	66.0	29.0
7	32.5	21.5	37.5	22.0	42.5	23.5	52.0	26.0	62.0	28.0
6	30.0	20.0	35.0	21.0	40.0	22.5	48.0	25.0	58.0	27.0

POLAR JET® PJ-120

Pressure	Nozzle Ø 24 mm		Nozzle Ø 25 mm		Nozzle Ø 26 mm		Nozzle Ø 28 mm		Nozzle Ø 29 mm	
Bar	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter
12	67.5	39.5	74.0	40.0	80.0	41.0	89.0	42.5	97.0	43.5
11	64.0	39.0	70.0	39.5	76.0	40.5	84.5	42.0	92.0	43.0
10	60.0	38.5	66.0	39.0	72.0	40.0	80.0	41.5	87.5	42.5
9	56.0	37.5	62.5	38.0	66.0	39.0	76.0	40.5	82.5	41.5
8	52.0	36.0	59.0	37.0	64.0	38.0	72.0	39.5	78.0	40.5
7	48.5	35.0	55.0	35.5	60.0	36.5	68.0	38.0	73.0	39.0
6	45.0	33.0	51.0	34.0	56.0	35.0	63.0	36.5	68.5	37.5

POLAR JET® PJ-120

Pressure	Nozzle Ø 30 mm		Nozzle Ø 31 mm		Nozzle Ø 32.5 mm		Nozzle Ø 35 mm	
Bar	m³/h	meter	m³/h	m³/h	meter	meter	m³/h	meter
12	105.0	44.5	114.0	45.5	126.0	46.5	149.0	48.0
11	100.0	44.0	108.0	45.0	119.0	46.0	141.0	47.5
10	94.0	43.5	102.0	44.5	112.0	45.5	132.0	47.0
9	89.0	42.5	96.0	43.5	105.0	44.5	123.0	46.0
8	84.0	41.5	90.0	42.5	98.0	43.5	114.0	45.0
7	78.5	40.0	84.0	41.0	91.0	42.0	104.0	43.5
6	73.0	38.5	78.0	39.5	84.0	40.5	95.0	42.0

POLAR JET® PJ-123

Pressure	Nozzle Ø 12 mm		Nozzle Ø 14 mm		Nozzle Ø 16 mm		Nozzle Ø 18 mm		Nozzle Ø 20 mm	
Bar	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter	m³/h	meter
12	19.0	25.0	27.0	26.5	35.0	28.5	44.0	29.5	54.0	31.5
11	18.0	24.5	26.0	26.0	33.5	27.5	42.0	29.0	51.0	31.0
10	17.0	23.5	24.0	25.5	32.0	27.0	39.0	28.5	48.0	30.5
9	16.0	22.5	23.0	24.5	30.0	26.0	37.0	27.5	45.0	29.5
8	15.0	21.5	22.0	23.5	28.5	25.0	34.5	26.5	42.5	28.5
7	14.0	20.5	20.0	22.5	27.0	24.0	32.0	25.5	40.0	27.5
6	13.0	19.5	19.0	21.5	25.0	23.0	30.0	24.5	37.0	26.5

Pressure	Nozzle Ø 22 mm	
Bar	m ³ /h	meter
12	60.0	33.0
11	57.0	32.5
10	54.0	32.0
9	51.0	31.0
8	48.0	30.0
7	45.0	29.0
6	42.0	28.0

POLAR JET® PJ-303

Pressure	Nozzle Ø 8 mm		Nozzle Ø 9 mm		Nozzle Ø 10 mm		Nozzle Ø 12 mm		Nozzle Ø 14 mm	
Bar	m ³ /h	meter	m ³ /h	meter	m ³ /h	meter	m ³ /h	meter	m ³ /h	meter
12	6.5	19.5	10.0	20.5	13.0	21.5	19.0	25.0	27.0	26.5
11	6.0	18.5	9.0	20.0	12.0	20.5	18.0	24.5	26.0	26.0
10	5.5	18.0	8.0	19.0	11.0	20.0	17.0	23.5	24.0	25.5
9	5.0	17.0	7.5	18.0	10.5	19.0	16.0	22.5	23.0	24.5
8	4.5	16.0	7.0	17.0	10.0	18.0	15.0	21.5	22.0	23.5
7	4.0	15.0	6.0	16.0	9.0	17.0	14.0	20.5	20.0	22.5
6	3.5	14.0	5.5	15.0	8.0	16.0	13.0	19.5	19.0	21.5

Pressure	Nozzle Ø 16 mm	
Bar	m ³ /h	meter
12	35.0	28.5
11	33.5	27.5
10	32.0	27.0
9	30.0	26.0
8	28.5	25.0
7	27.0	24.0
6	25.0	23.0

Intermediate nozzle sizes shall refer to performance data of the larger nozzle size. For instance, Ø 15.2 mm needs to apply performance data of Ø 16 mm.

Application/Limitation

This type approval is based on examination of drawings and tests carried out. Drawings showing number, location and supporting arrangement of the tank washing machines are to be submitted for each installation on board.

Different extension pipe lengths may apply.

No product certificate is required.

Type Approval documentation

Drawing No.: *Rev.:* *Date:* *Title:*

PJ-15 CP

PJ7096	-	14.02.2008	General Assembly
PJ7101	C	18.12.2007	General Assembly
PJ7122	C	30.11.2004	Lower Housing and Nozzle Assembly
PJ7124	D	01.04.2005	Inlet Housing and Turbine Assembly
PJ7156	C	09.03.2007	Turbine Housing Assembly
PJ7157	C	09.03.2007	Turbine Housing Assembly
PJ7158	C	09.03.2007	Turbine Housing Assembly
PJ7159	C	09.03.2007	Turbine Housing Assembly
PJ7160	A	09.03.2007	Turbine Housing Assembly
PJ7161	A	09.03.2007	Turbine Housing Assembly
PJ7162	E	09.03.2007	Turbine Housing Assembly
PJ7167	A	28.09.2009	Inlet Housing & Main Pipe Assembly (DIN)
PJ7168	B	28.09.2009	Inlet Housing & Main Pipe Assembly (ANSI)
PJ7169	A	01.04.2005	Inlet Housing and Turbine Assembly
PJ7170	A	01.04.2005	Inlet Housing and Turbine Assembly
PJ7383	D	02.09.2014	Control Unit Assembly

PJ-15 ECO

PJ7122	C	30.11.2004	Lower Housing and Nozzle Assembly
PJ7167	A	28.09.2009	Inlet Housing & Main Pipe Assembly (DIN)
PJ7168	B	28.09.2009	Inlet Housing & Main Pipe Assembly (ANSI)
PJ7124	D	01.04.2005	Inlet Housing and Turbine Assembly
PJ7156	C	09.03.2007	Turbine Housing Assembly
PJ7157	C	09.03.2007	Turbine Housing Assembly
PJ7158	C	09.03.2007	Turbine Housing Assembly
PJ7159	C	09.03.2007	Turbine Housing Assembly
PJ7160	A	09.03.2007	Turbine Housing Assembly
PJ7161	A	09.03.2007	Turbine Housing Assembly
PJ7162	E	09.03.2007	Turbine Housing Assembly
PJ7169	A	01.04.2005	Inlet Housing and Turbine Assembly
PJ7170	A	01.04.2005	Inlet Housing and Turbine Assembly
PJ7702	B	17.09.2014	Endless Screw
PJ7970			
PJ7972			

PJ-15 Magnetic

PJ7008	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7009	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7010	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7011	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy

PJ7012	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7013	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7014	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7015	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7016	A	19.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7017	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7081	-	12.12.2006	Inlet Housing and Turbine Assembly
PJ7082	-	12.12.2006	Inlet Housing and Turbine Assembly
PJ7083	-	12.12.2006	Inlet Housing and Turbine Assembly
PJ7122	C	30.11.2004	Lower Housing and Nozzle Assembly
PJ7179	A	18.12.2007	General Assembly
PJ7206	B	20.07.2007	Endless Screw
PJ7271	B	03.08.2006	Turbine Housing Assembly
PJ7383	D	02.09.2014	Control Unit Assembly
PJ7634		28.09.2009	Inlet Housing & Main Pipe Assembly (JIS)
PJ7636	-	28.09.2009	Inlet Housing & Main Pipe Assembly (JIS)

PJ-15 Magnetic Eco

PJ7008	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7009	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7010	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7011	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7012	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7013	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7014	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7015	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7016	A	19.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7017	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7046	-	14.02.2008	Inlet Housing and Turbine Assembly
PJ7122	C	30.11.2004	Lower Housing and Nozzle Assembly
PJ7383	D	02.09.2014	Control Unit Assembly
PJ7702	B	17.09.2014	Endless Screw
PJ7971	-	07.01.2015	General Assembly

PJ-25

PJ7968	-	18.12.2014	General Assembly
PJ7969	-	18.12.2014	General Assy (Deck Mounted)

PJ-30

PJ3301	E	26.06.2013	General Assembly
PJ3501	D	31.07.2014	Inlet Housing and Main Pipe Assembly
PJ3503	H	26.06.2013	Lower Housing and Nozzle Assembly
PJ7123	E	18.03.2005	Inlet Housing and Turbine Assembly

PJ7156	C	09.03.2007	Turbine Housing Assembly
PJ7157	C	09.03.2007	Turbine Housing Assembly
PJ7158	C	09.03.2007	Turbine Housing Assembly
PJ7159	C	09.03.2007	Turbine Housing Assembly
PJ7160	A	09.03.2007	Turbine Housing Assembly
PJ7161	A	09.03.2007	Turbine Housing Assembly
PJ7162	E	09.03.2007	Turbine Housing Assembly
PJ7384	D	02.09.2014	Control Unit Assembly

PJ-30 ECO

PJ3501	D	31.07.2014	Inlet Housing & Main Pipe Assembly
PJ7123	E	12.10.1999	Inlet Housing and Turbine Assembly
PJ7156	C	09.03.2007	Turbine Housing Assembly
PJ7157	C	09.03.2007	Turbine Housing Assembly
PJ7158	C	09.03.2007	Turbine Housing Assembly
PJ7159	C	09.03.2007	Turbine Housing Assembly
PJ7160	A	09.03.2007	Turbine Housing Assembly
PJ7161	A	09.03.2007	Turbine Housing Assembly
PJ7162	E	09.03.2007	Turbine Housing Assembly
PJ7802	B	26.06.2013	Endless Screw (PJ30ECO)
PJ7805	-	26.06.2013	General Assembly
PJ7806	-	26.06.2013	Control Unit Assembly
PJ3503			

PJ-30 Magnetic

PJ3299	B	26.06.2013	General Assembly
PJ7008	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7009	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7010	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7011	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7012	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7013	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7014	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7015	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7016	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7017	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7268	-	12.12.2006	Inlet Housing and Turbine Assembly
PJ7271	B	03.08.2006	Turbine Housing Assembly
PJ7294	-	29.11.2006	Inlet Housing & Main Pipe Assembly (JIS)
PJ7384	D	02.09.2014	Control Unit Assembly
PJ2760			
PJ3503			

PJ-30 Magnetic Eco

PJ7008	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7009	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7010	A	04.12.2006	Turbine Housing & Magnetic Coupling Assy
PJ7011	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7012	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7013	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7014	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7015	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7016	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7017	A	16.11.2007	Turbine Housing & Magnetic Coupling Assy
PJ7049	-	14.02.2008	Inlet Housing and Turbine Assembly
PJ7268	-	12.12.2006	Inlet Housing and Turbine Assembly
PJ7271	B	03.08.2006	Turbine Housing Assembly
PJ7802	B	26.06.2013	Endless Screw (PJ30ECO)
PJ7806	-	26.06.2013	Control Unit Assembly
PJ7824	-	26.06.2013	General Assembly
PJ3503			
PJ7379			

PJ-50

PJ4095	D	14.11.2013	General Assembly
PJ4096	E	14.11.2013	General Assembly
PJ4100	B	29.10.2013	General Assembly (PJ50)

PJ-120 CPA

PJ2550	F	07.02.2008	Inlet Housing and Turbine Assembly
PJ2589	E	23.04.2013	Lower Housing and Nozzle Assembly
PJ2600	D	30.04.2010	Control Unit Assembly
PJ2648	A	11.11.2005	General Assembly (PJ120)

PJ-120 MAGNETIC

PJ2311	D	12.03.2010	Control Unit Assembly
PJ2589	E	23.04.2013	Lower Housing and Nozzle Assembly
PJ2742	G	19.12.2014	Main Pipe
PJ7273	-	04.07.2006	Magnet
PJ7274	-	04.07.2006	Magnet
PJ7276	-	04.07.2006	Magnet
PJ7277	-	05.07.2006	Magnet
PJ7497	A	10.04.2014	Magnet Housing Assembly
PJ7516	-	21.01.2009	General Assembly
PJ7517	-	21.01.2009	Inlet Housing and Turbine Assembly
PJ7801	A	09.02.2015	Main Pipe Assembly

**PJ-120
RETRACTABLE**

PJ2311	D	12.03.2010	Control Unit Assembly
PJ2589	E	23.04.2013	Lower Housing and Nozzle Assembly
PJ2650	C	11.11.2005	General Assembly (PJ 120)
PJ2687	A	16.09.2009	Inlet Housing and Turbine Assembly
PJ2774	D	09.05.2008	Main Pipe Assembly
PJ2778	E	09.05.2008	Main Pipe Assembly
PJ2779	D	09.05.2008	Main Pipe Assembly
PJ2780	E	09.05.2008	Main Pipe Assembly

PJ-120 SPLIT TYPE

PJ2649	B	11.11.2005	General Assembly (PJ120)
PJ2311	D	12.03.2010	CONTROL Unit Assembly
PJ2670	A	13.06.2006	Inlet Housing and Turbine Assembly
PJ2589	E	23.04.2013	Lower Housing and Nozzle Assembly
PJ2657	E	28.04.2015	Main Pipe Assembly (JIS Standard)
PJ2660	E	28.04.2015	Main Pipe Assembly (DIN Standard)
PJ2661	E	28.04.2015	Main Pipe Assembly (ANSI Standard)
PJ2732	E	13.05.2015	Main Pipe Assembly (JIS Standard)

PJ-120 T

PJ2609	B	11.11.2005	General Assembly (PJ120)
PJ2311	D	12.03.2010	Control Unit Assembly
PJ2550	F	07.02.2008	Inlet Housing and Turbine Assembly
PJ2589	E	23.04.2013	Lower Housing and Nozzle Assembly
PJ7801	A	09.02.2015	Main Pipe Assembly
PJ2580	A	03.11.2010	Nozzle Pipe

FOR STAINLESS WASHING UNIT

PJ0355	-	12.09.2001	Bearing
PJ2418	-	20.09.2006	Lower Housing
PJ2419	A	12.04.2010	Rack
PJ2453	B	14.04.2005	Nozzle Pipe Support
PJ2968	A	17.11.2006	Retaining Ring
PJ2969	-	22.11.2005	PTFE Bearing
PJ3213	A	14.06.2012	Thrust Bearing
PJ3214	A	14.06.2012	Bearing
PJ2757	-	11.09.2001	Split Ring Retainer
PJ7393	C	10.07.2012	Lifting Road and Rack Assembly
PJ7394	D	17.06.2013	Nozzle Pipe
PJ7395	A	10.09.2007	Nozzle Pipe Support
PJ7396	-	18.07.2007	Elbow Assembly
PJ7398	C	10.07.2012	Nozzle Pipe Assembly

PJ7517

PJ-120 SW

PJ2311	D	12.03.2010	Control Unit Assembly
PJ2589	E	23.04.2013	Lower Housing and Nozzle Assembly
PJ2651	B	11.11.2005	General Assembly (PJ120) - Left Hand
PJ2654	B	21.11.2005	Swing Unit Assembly (Left Hand)
PJ2675	A	22.11.2005	Main Pipe Assembly

PJ-123

PJ3343	A	07.12.2004	General Assembly (PJ 123)
PJ2666	B	27.07.2007	Control Unit Assembly
PJ2667	B	12.03.2010	Control Unit Assembly
PJ3528	A	06.12.2004	Inlet Housing and Turbine Assembly

PJ-303

PJ2335	A	19.11.2009	Nozzle PJ30/303/603
PJ3300	B	18.12.2007	General Assembly
PJ3515	C	11.06.2010	Lower Housing and Nozzle Assembly
PJ7384	D	02.09.2014	Control Unit Assembly
PJ7822	-	14.05.2013	Nozzle Pipe Support Assembly

General documents:
Asbestos-free declaration, dated 2015

Tests carried out

Washing machine jet performance testing carried out under survey by DNV GL.
Performance is based upon test requirements that meet DNV TA-Program 785.70, item 3.2.

- Performance Test Survey Report, dated 2007-03-01
- Performance test of PJ 15, Nozzle Ø18mm, dated 2016-05-24.

Marking of product

For identification to this certificate the products are to be marked with:

- Manufacturers name or trade mark.
- Type designation.
- Additional marking at manufacturer's option.

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Standard for certification No. 1.2 Type Approval Item 4.

This certificate replaces previous Type Approval Certificate No. P-15265.