

DutyMax EH/GH™ 230/300, DH230 HD Hydraulic Sprayers

334606J

EN

For professional use only.

Not approved for use in explosive atmosphere or hazardous locations.

For portable airless spraying of architectural paints and coatings.

3300 psi (22.8 MPa, 228 bar) Maximum Working Pressure

See page 3 for model information, including maximum working pressure and approvals.



Important Safety Instructions

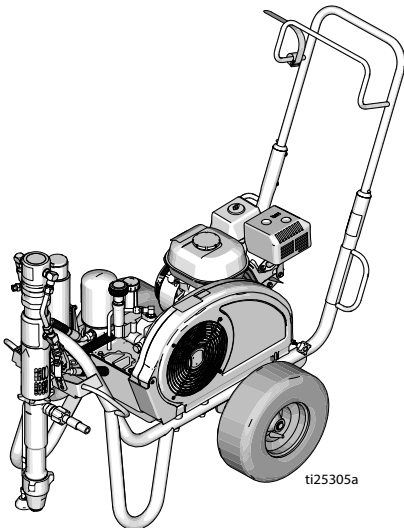
Read all warnings and instructions in this manual and in related manuals.

Be familiar with the controls and the proper usage of the equipment.

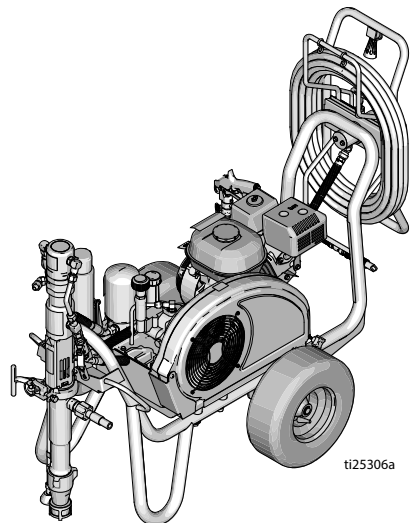
Save these instructions.

Related Manuals:

308491	DutyMax DH/GH230 Gun	334654	Pump
309495	DutyMax GH300 Gun	310812	Electric Motor



Standard Series



ProContractor Series

Use only genuine Graco replacement parts.

The use of non-Graco replacement parts may void warranty.

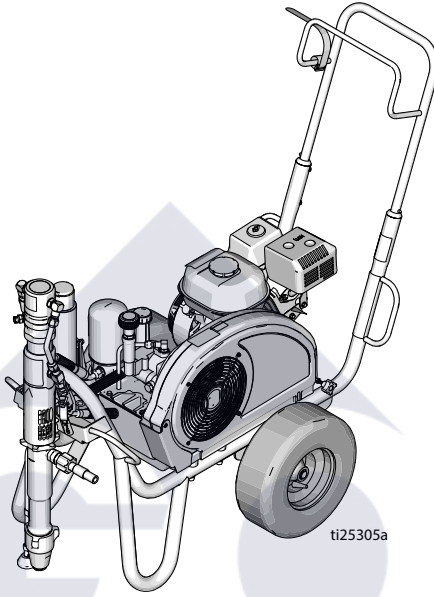


Table of Contents

Models	3
Electric Motor Kit Options	3
OEM Kits	3
Warnings	4
Electric Motor Warnings	4
Internal Combustion Engine Warnings	7
Electric Motor/Internal Combustion Engine Warnings	8
Component Identification	11
Standard Models (EH/GH230, 300 HD)	11
ProContractor Models (EH/GH230, 300 HD)	12
ProContractor Model (DH230 HD)	13
Grounding	14
Grounding Procedure for Gas Engine	14
Grounding Procedure for Electric Motor	14
Grounding of Pails	15
Circuit Protection	15
Setup	16
Change Engine or Motor	16
Complete Setup	17
Pressure Relief Procedure	19
Startup (Internal Combustion Models)	20
Startup (Electric Models)	23
How to Spray	25
Switch Tip™ and Guard Assembly	25
Spray	25
Clear Tip Clogs	26
Hose Reel	26
Clean Up	27
Maintenance	29
Troubleshooting	31
Standard Series Pump	33
ProContractor Series Pump	34
DutyMax EH/GH230/300 HD Standard Series Parts	37
DutyMax DH230/EH/GH230/300 HD ProContractor Series	49
Technical Data	64
DutyMax EH230 HD Standard Series	64
DutyMax EH300 HD Standard Series	65
DutyMax GH230 HD Standard Series	66
DutyMax GH300 HD Standard Series	67
DutyMax EH230 HD ProContractor Series	68
DutyMax EH300 HD ProContractor Series	69
DutyMax DH230/GH230 HD ProContractor Series	70
DutyMax GH300 HD ProContractor Series	71
Graco Standard Warranty	75
Graco Information	76

DutyMax EH/GH230/300 HD Standard Series



DutyMax EH/GH230/300 HD Standard Series Parts

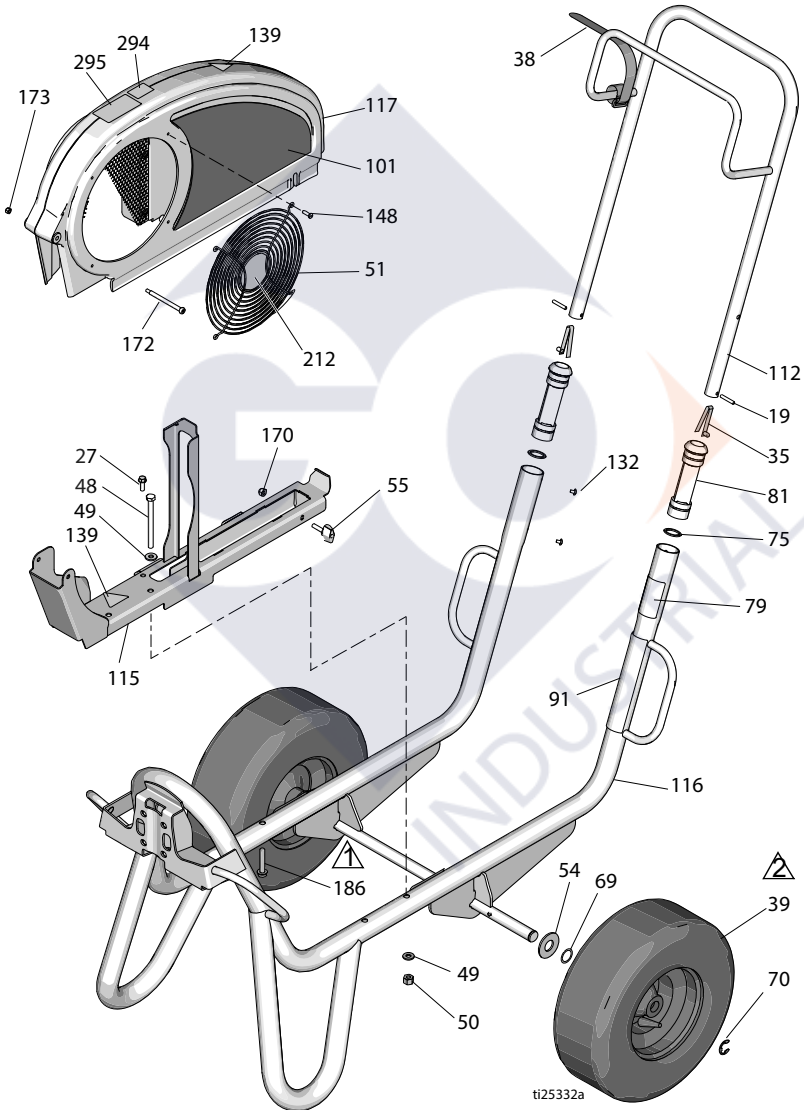


INDUSTRIAL

DutyMax EH/GH230/300 HD Standard Series

GH230/300 Standard Series Frame and Belt Guard Parts

Ref.	Torque	Ref.	Torque
	120-130 in-lb (13.6 - 14.7 N•m)		Inflate tires to 25-35 psi (1.7-2.4 bar)



DutyMax EH/GH230/300 HD Standard Series

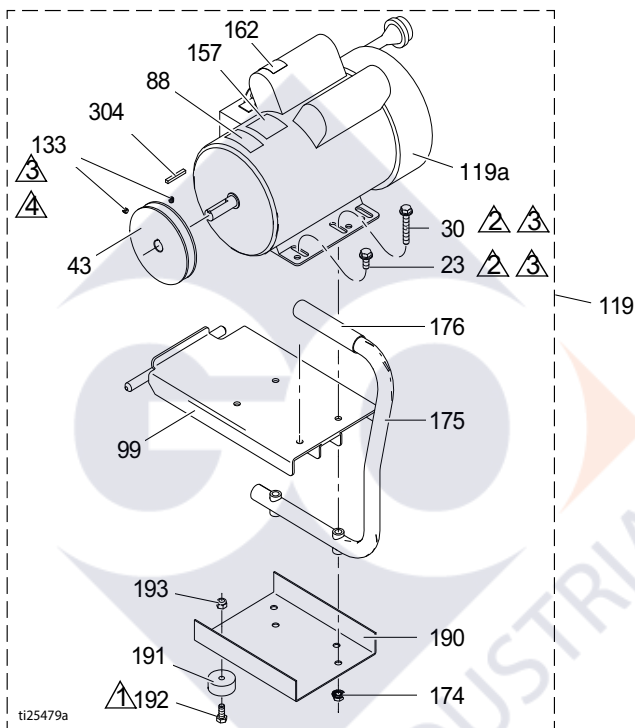
Parts List

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
19	101354	PIN, spring, straight	2	17D046	LABEL, brand, side (EH300DI)	1	
27	260212	SCREW, hex washer hd, thd form	1	17D048	LABEL, brand, side (GH300DI)	1	
35	112827	BUTTON, snap	2	112	24M397	HANDLE, cart	1
38	114271	STRAP, retaining	1	115	24M086	RAIL, belt guard, assy	1
39	119509	WHEEL, pneumatic	2	116	24M085	FRAME, cart, weldment	1
48	867539	SCREW, cap, hex hd	2	117	248973	GUARD, belt assembly, painted (includes 51, 148, 172, 173)	1
49	100527	WASHER, plain	4	132	109032	SCREW, mach, pnh	4
50	110838	NUT, lock	2	139▲	16M768	LABEL, warning	2
51	117284	GRILL, fan guard	1	141▲	15Y963	LABEL, read instructions	1
54	156306	WASHER, flat	2	148	115477	SCREW, mach, torx pan hd	4
55	17D813	NUT, hand	2	170	102040	NUT, lock, hex	1
69	116038	WASHER, wave spring	2	172	119434	SCRWE, shoulder, skt hd	1
70	120211	RING, retaining, e-ring	2	173	116969	NUT, lock	1
75	15J645	WASHER	2	212	16N398	LABEL, direction (EH/GH300DI)	1
79▲	189246	LABEL, warning	1	294	16D576	LABEL, made in USA	1
	17D947	LABEL, warning, multi-languages	1	295	16X983	LABEL, standard series	1
81	192027	SLEEVE, cart	2	▲Danger and Warning labels are available at no cost.			
91▲	194317	LABEL, warning	1				
	16N948	LABEL, warning, ISO	1				
	17D947	LABEL, warning, multi-languages	1				
101	17D042	LABEL, brand, side (EH230DI)	1				
	17D044	LABEL, brand, side (GH230DI)	1				

DutyMax EH/GH230/300 HD Standard Series

DutyMax EH230 HD Electric Motor Parts

Ref.	Torque	Ref.	Torque
▲1	25-30 in-lb (2.9 - 3.4 N•m)	▲3	Apply Loctite 242
▲2	215-235 in-lb (24.3 - 26.6 N•m)	▲4	58-62 in-lb (6.6 - 7.0 N•m)

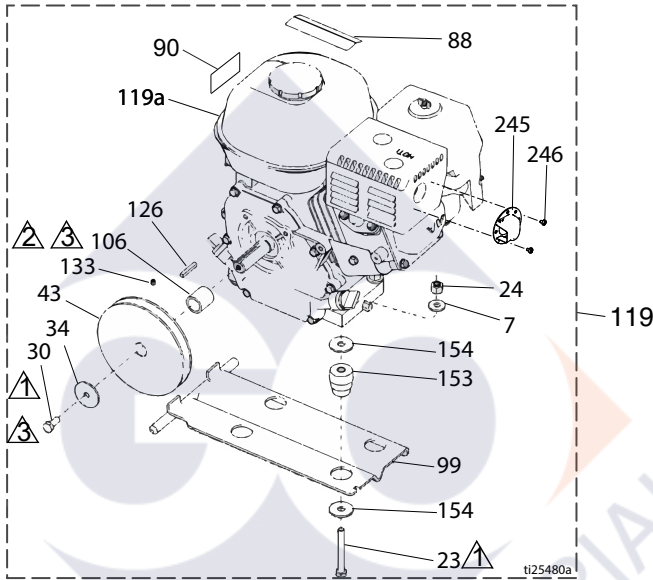


Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
23	110963	SCREW, cap, flange head	2	174	110996	NUT, hex, flange head	4
30	114653	SCREW, cap, flange head	2	175	246214	HANDLE, conversion	1
43	16N612	PULLEY	1	176	111700	GRIP, handle	1
44	116914	BELT, V-Grip-notch (not shown)	1	190	15F217	PLATE, isolator, bottom	1
88▲	15K616	LABEL, caution	1	191	113817	BUMPER	4
99	15E585	BRACKET, mounting, elec. motor	1	192	100057	SCREW, cap, hex hd	4
119	24M668	KIT, 3.0 hp (includes all parts listed on this page)	1	193	111040	NUT, lock, insert, nylock, 5/16	4
119a	15E669	MOTOR, electric 3 HP, 230V AC	1	304	117632	KEY, square 3/16 x 1.25	1
133	100002	SCREW, set	2	▲Danger and Warning labels are available at no cost			
157	15B804	LABEL, Graco	2				
162▲	189930	LABEL, warning	1				

DutyMax EH/GH230/300 HD Standard Series

DutyMax GH230 HD Gasoline Engine Parts

Ref.	Torque	Ref.	Torque
▲1	120-130 in-lb (13.6 - 14.7 N•m)	▲3	Apply Loctite 242
▲2	58-62 in-lb (6.6 - 7.0 N•m)		

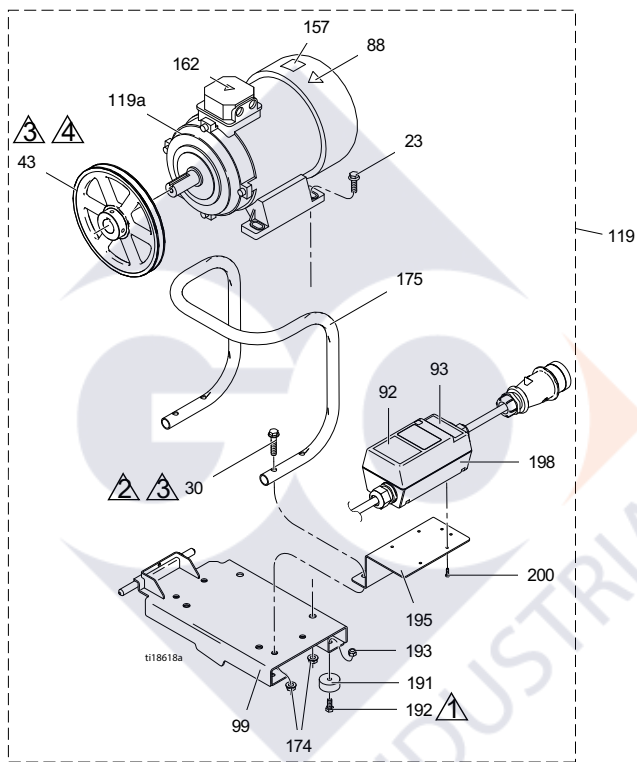


Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
7	100023	WASHER, flat	4	119	248944	KIT, gas engine 6.5 hp (includes all parts listed on this page)	2
23	113664	SCREW, cap, hex hd	4	119a	116298	ENGINE, 6.5 gas	1
24	110838	NUT, lock	4	126	117632	KEY, square, 3/16 x 1.25	1
30	108842	SCREW, cap, hex hd	2	133	100002	SCREW, set	1
34	112717	WASHER	1	153	15E888	DAMPENER, motor mount	4
43	116908	PULLEY, 5.50 in.	1	154	108851	WASHER, plain	8
44	119433	BELT, V-Grip-notch (not shown)	1	245	128099	DEFLECTOR, exhaust	1
50	110838	NUT, lock	4	246	128101	SCREW, tapping	2
88▲	194126	LABEL, warning	1	▲Danger and Warning labels are available at no cost			
90▲	16Y720	LABEL, V-Grip-notch engine	1				
99	15F157	BRACKET, mounting, engine	1				
106	15B314	SLEEVE, motor shaft	1				

DutyMax EH/GH230/300 HD Standard Series

DutyMax EH300 HD Electric Motor Parts

Ref.	Torque	Ref.	Torque
▲ 1	25-30 in-lb (2.9 - 3.4 N•m)	▲ 3	Apply Loctite 242
▲ 2	215-235 in-lb (24.3 - 26.6 N•m)	▲ 4	58-62 in-lb (6.6 - 7.0 N•m)

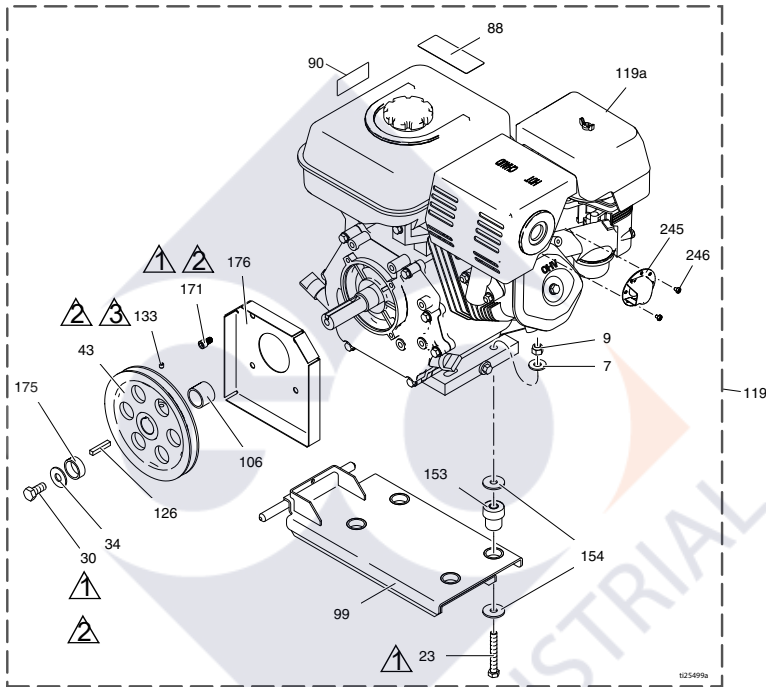


Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
23	111193	SCREW, cap, flange head	4	174	112958	NUT, hex, flanged	8
30	116780	SCREW, hex, hd, flanged	4	175	16M473	TUBE, handle, conversion	1
43	125811	PULLEY, cast iron, 8.75 in	1	191	113817	BUMPER	4
88▲	15K616	LABEL, caution	1	192	100057	SCREW, cap, hex hd	4
92	16N399	LABEL, motor switch box on-off	1	193	111040	NUT, lock, insert, nylock, 5/16	4
93	16N400	LABEL, red light indicator	1	195	16M474	BRACKET, motor starter	1
99	16M467	BRACKET, mounting, motor, EH300	1	198	24N064	STARTER, motor assembly	1
119	24M669	KIT, motor (includes all parts listed on this page)	1	200	119236	SCREW, plastite	4
119a	24N019	MOTOR, elec., 400 VAC, 50 Hz, 7.3 hp	1	▲ Danger and Warning labels are available at no cost			
▲ 162	189930	LABEL, caution	1				

DutyMax EH/GH230/300 HD Standard Series

DutyMax GH300 HD Gasoline Engine Parts








Ref.	Torque	Ref.	Torque
	120-130 in-lb (13.6 - 14.7 N•m)		58-62 in-lb (6.6 - 7.0 N•m)
	Apply Loctite 242		

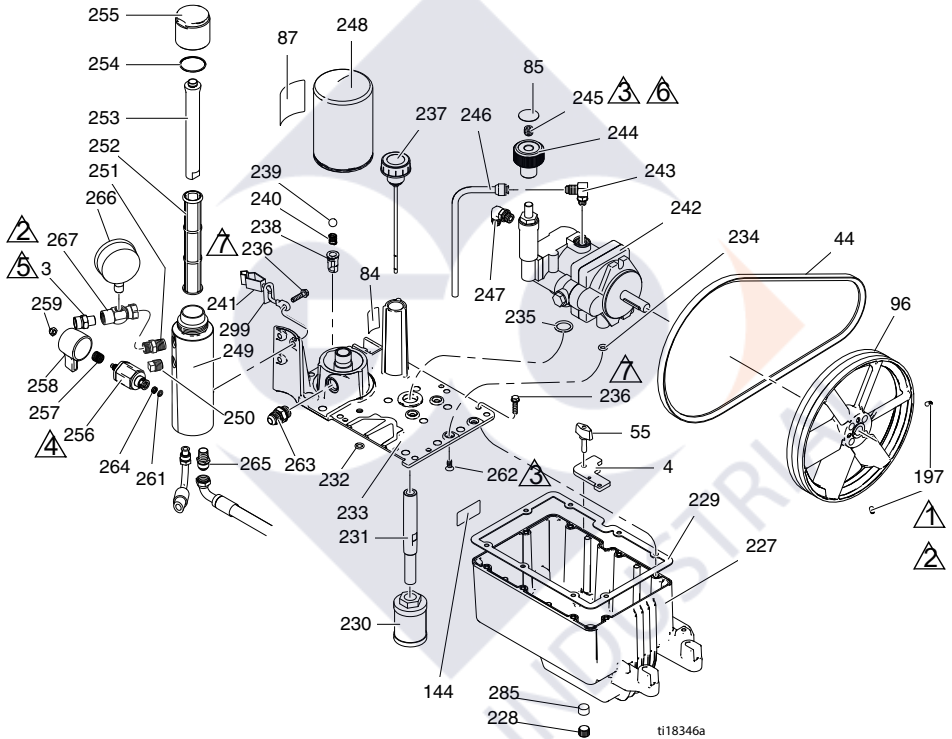


Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
7	100132	WASHER, flat	4	119a	803900	ENGINE, gasoline, 9.0 hp (Honda)	1
	100023	WASHER, flat (Vanguard)	4		24P301	ENGINE, gasoline, 9.0 hp (China only)	1
9	110838	NUT, lock	4		248945V	ENGINE, gasoline, 10 hp (Vanguard, California compliant)	1
23	106212	SCREW, cap, hex hd	4	126	119484	KEY, parallel, square	1
	113664	SCREW, cap, hex hd (Vanguard)	4	133	100002	SCREW, set	1
30	116645	SCREW, cap, hex head	1	153	195515	DAMPENER, motor mount	4
34	100696	WASHER, wrought	1		15E888	DAMPENER, motor mount (Vanguard)	4
43	119401	PULLEY	1	154	108851	WASHER, plain	8
44	119432	BELT, V-Grip-notch (not shown)	1	171	C20010	SCREW, cap, socket head	4
88▲	194126	LABEL, warning	1	175	15E764	SPACER, shaft, engine	1
90▲	16Y720	LABEL, warning, ISO engine	1	176	15E973	SHIELD, engine shaft	1
99	15E583	BRACKET, mounting, engine	1	245	124145	DEFLECTOR, exhaust	1
106	15E586	SLEEVE, shaft, engine	1	246	128101	SCREW, tapping	3
119	248945	KIT, gas engine 9.0 hp (includes all parts listed on this page)	1	▲Danger and Warning labels are available at no cost			
119	25P354	KIT, gas engine, 9.0 hp (China only)	1				

DutyMax EH/GH230/300 HD Standard Series

Standard Series Reservoir & Filter Parts

Ref.	Torque	Ref.	Torque
 1	58-62 in-lb (6.6 - 7.0 N•m)	 5	15-25 in-lb (1.7 - 2.8 N•m)
 2	Apply Loctite 242	 6	Apply Loctite 277
 3	90-110 in-lb (10.2 - 12.4 N•m)	 7	110-120 in-lb (12.4 - 13.6 N•m)
 4	355-395 in-lb (40.1 - 44.6 N•m)		



DutyMax EH/GH230/300 HD Standard Series





Standard Series Reservoir and Filter Parts List

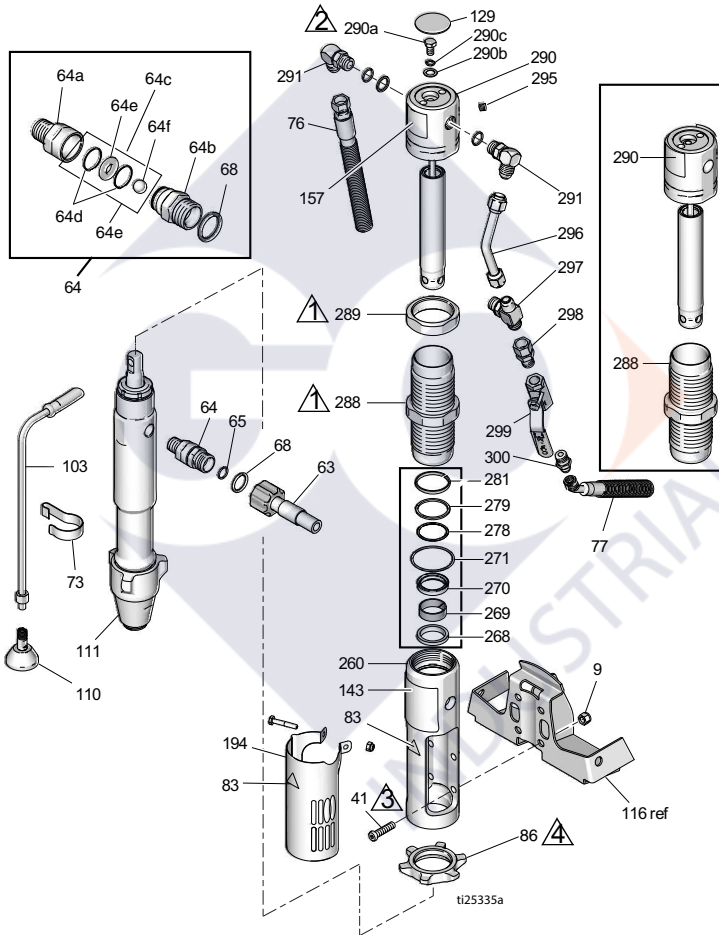
Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
3	196178	FITTING, outlet (EH/GH230DI)	1	242	249003	PUMP, hydraulic (EH/GH230DI)	1
	183285	FITTING, outlet, (EH/GH300DI)	1	243	110792	FITTING, elbow, male, 90°	1
4	15E476	BRACKET, retainer, motor	1	244	15B438	KNOB, pressure	1
				245	117560	SCREW, set, socket head	1
44	116914	BELT, V, AX42 (EH230DI)	1	246	246167	TUBE, hydraulic, case drain	1
	119433	BELT, V, AX41 (GH230DI)	1				
	125834	BELT, V, AX48 (EH300DI)	1	247	116829	FITTING, elbow, hydraulic w/o rings	1
	119432	BELT, V, AX44 (GH300DI)	1				
55	15D862	NUT, hand	2	248	246173	FILTER, oil, spin on	1
84	198585	LABEL, hydraulic fluid, GH	1	249	15E599	HOUSING, filter	1
				250	15G331	PLUG, pipe	1
85	15A464	LABEL, control	1	251	196178	ADAPTER, nipple	1
87	189892	LABEL, Graco	1	252	244067	FILTER, fluid	1
96	15E410	PULLEY, fan	1	253	15C766	TUBE, diffusion	1
144	15K440	LABEL, brand, GH/EH cooling	1	254	117285	PACKING, o-ring	1
				255	15C765	CAP, filter	1
197	120087	SCREW, set, 1/4 x 1/2	2	256*	287879	VALVE, drain, assy	1
227	15J513	TANK, reservoir, blue	1	257*	114708	SPRING, comp	1
228	101754	PLUG, pipe	1	258*	15G563	HANDLE, valve	1
229	120604	GASKET, reservoir	1	259*	116424	NUT, cap	1
230	116919	FILTER	1	261*	193710	SEAL, seat, valve	1
231	15E587	TUBE, suction	1	262	117471	SCREW, mach, hex flat head	4
232	154594	PACKING, o-ring	1				
233	15M056	COVER, reservoir	1	263	120184	FITTING, hydraulic	1
234	107188	PACKING, o-ring	4	264*	193709	SEAT, valve	1
235	156401	PACKING, o-ring	1	265	121311	FITTING, elbow, 45° street	1
236	119426	SCREW, mach, hex washer hd	11	266	102814	GAUGE	1
				267	243683	UNION, swivel	1
237	120726	CAP, breather, filter	1	285	116618	MAGNET	1
238	198841	RETAINER, ball, pressure bypass	1	299	290079	LABEL, ground warning, English	1
239	100084	BALL, metallic	1				
240	116967	SPRING, compression	1		16Y633	LABEL, ground warning, Chinese	1
241	237686	WIRE, ground assembly w clamp	1				

* Included in Drain Valve Kit 245103

DutyMax EH/GH230/300 HD Standard Series

Hydraulic Motor & Displacement Pump Parts

Ref.	Torque	Ref.	Torque
 1	145-155 ft-lb (196.6 - 210.2 N•m)	 3	140-160 in-lb (15.8 - 18.1 N•m)
 2	12-18 ft-lb (16.3 - 24.4 N•m)	 4	70-80 ft-lb (94.9 - 108.5 N•m)



DutyMax EH/GH230/300 HD Standard Series

Hydraulic Motor & Displacement Pump Parts List

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
8	15F584	LABEL, ProConnect	1		17D065	LABEL, brand, front (EH300DI)	1
9	101566	NUT, lock	4		17D067	LABEL, brand, front (GH300DI)	1
33	189920	STRAINER, (1-11 1/2 npsm)	1				
41◆	107210	SCREW	4	157◆	15B804	LABEL, Graco	2
57	288344	CLAMP, pump	1	178	156698	PACKING, o-ring	1
58	105510	WASHER, lock, spring (hi-collar)	2	179	277377	COUPLER, pump	2
59	101550	SCREW, cap, sch	2	180	15H957	COVER, coupler	1
63	257908	HOSE, coupled	1	194	24X474	COVER, shield	1
64	24M611	KIT, check valve (includes 64a -64f)	1	260◆	15E243	MANIFOLD, adapter	1
64a	16N461	HOUSING, seat, check valve	1	268◆+	117739	WIPER, rod	1
64b	16N462	HOUSING, ball, check valve	1	269◆+	112342	BEARING, rod	1
64c	24M725	KIT, repair, check valve (includes 64d, 64e, 64f, 68)	1	270◆+	112561	PACKING, block	1
64d*		O-RING	2	271◆+	117283	PACKING, o-ring	1
64e*		SEAT, valve	1	278◆+	108014	PACKING, o-ring	1
64f*		BALL, ceramic	1	279◆+	178226	SEAL, piston	1
65	109450	PACKING, o-ring	1	281◆+	178207	BEARING, piston	1
68*	C20195	PACKING, o-ring	1	288◆	248991	SLEEVE, hydraulic	1
73	198542	CLIP, spring	1	289◆	15A726	NUT, jam	1
76	15K642	HOSE, hydraulic, return	1	290◆	288755	KIT, repair, trip rod (includes 129, 278, 279, 281, 282, 295)	1
77	15K641	HOSE, hydraulic, supply	1	290a◆	106276	SCREW, cap, hex head	1
83▲◆	192840	LABEL, warning	1	290b◆	155685	PACKING, o-ring	1
86	193394	NUT, retaining, GH230/300	1	290c◆	178179	WASHER, sealing	1
103	243993	HOSE, drain, Ultra hi-boy	1	291◆	117607	FITTING, elbow std thd	2
110	241920	DEFLECTOR, threaded	1	295◆	100139	PLUG, pipe	1
111	24W999	PUMP, displacement	1	296◆	15E596	TUBE, hydraulic, supply	1
129◆	15B063	LABEL, warning	1	297◆	117609	FITTING, tee, branch, str thd	1
143	17D061	LABEL, brand, front (EH230DI)	1	298	117328	FITTING, nipple, straight	1
		LABEL, brand, front (GH230DI)	1	299	117441	VALVE, ball	1
				300	116813	FITTING, nipple, hydraulic	1

▲ *Danger and Warning labels are available at no cost*

◆ *Included in Hydraulic Motor Repair Kit 248977 (EH/GH300).*

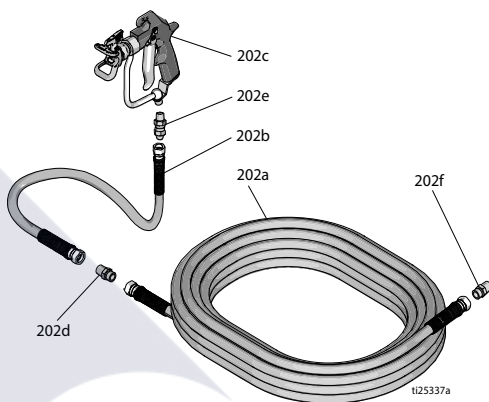
+ *Included in Seal Kit 246174*

* *Included in Check Valve Repair Kit 24M725*

DutyMax EH/GH230/300 HD Standard Series

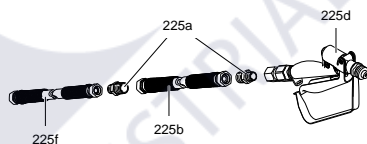
DutyMax EH/GH230 HD Spray Gun & Hose Parts

Ref.	Part No.	Description	Qty.
202a	240797	HOSE, grounded, nylon; 3/8 in. ID; cpld 3/8-18 npsm; 50 ft (15 m); spring guards both ends	1
202b	241735	HOSE, grounded, nylon; 1/4 in. ID; cpld 1/4 npt(m) x 1/4 npsm(f); 3 ft (0.9m); spring guards both ends 3300 psi (227 bar, 22.7 MPa)	1
202c	241705	GUN, spray, texture, Includes RAC [®] Tip Guard and LTX531 Spray Tip Cylinder, See 308491 for parts	1
202d	159841	ADAPTER, 3/8 x 1/4 in. npt	1
202e	239663	SWIVEL, straight	1
202f	196178	ADAPTER, nipple	1



DutyMax EH/GH300 HD Spray Gun & Hose Parts

Ref.	Part No.	Description	Qty.
225a	159239	FITTING, nipple, pipe, rdcg	2
225b	191239	HOSE, cpld, 3/8 in. x 11 ft 10 in.	1
225d	245820	KIT, accessory, gun	1
225f	278499	HOSE, cpld, 1/2 in. x 50 ft, 3300 wp	1



Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

FOR GRACO CANADA CUSTOMERS

The Parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés, à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

Graco Information

For the latest information about Graco products, visit www.graco.com.

For patent information, see www.graco.com/patents.

TO PLACE AN ORDER, contact your Graco distributor or call 1-800-690-2894 to identify the nearest distributor.



All written and visual data contained in this document reflects the latest product information available at the time of publication.

Graco reserves the right to make changes at any time without notice.

Original instructions. This manual contains English. MM 334606

Graco Headquarters: Minneapolis

International Offices: Belgium, China, Japan, Korea

GRACO INC. AND SUBSIDIARIES • P.O. BOX 1441 • MINNEAPOLIS MN 55440-1441 • USA

Copyright 2014, Graco Inc. All Graco manufacturing locations are registered to ISO 9001.

www.graco.com

Revision J, August 2022