



**TODAY'S OIL AND GAS OPERATIONS DEMAND
PRODUCTS THAT MAXIMISE PERFORMANCE,
UPTIME AND OUTPUT.**

Gates powers progress through comprehensive
cost-reducing solutions at every stage.

GATES ENGINEERING & SERVICES

Gates Engineering & Services Australia (GESA) is a division of the Gates Corporation, one of the world's largest hose manufacturers. GESA operate from their fully stocked and equipped Darwin and Perth facilities with logistical support from Gates National Distribution Centre in Melbourne, along with the support from a network of affiliate companies based in Singapore, China, Dubai and North America.

GESA is focused on manufacturing high performance oil field, industrial and hydraulic flexible hose assemblies for the oil and gas industry with quality components sourced through the global network.

GESA operate a management system which is DNV certified to AS/NZS ISO 9001 under the scope of Suppliers & Auditors of Oilfield, Industrial & Hydraulic Hose and Assemblies.

GESA's scope of supply includes hose related products such as dry disconnect couplings, hammer unions, flotation collars and breakaway couplings. In addition, GESA can also supply valves, pipe and tube fittings supported by the Gates global network.

GESA are highly experienced Hose Management Service (HMS) providers with current long-term relationships with leading oil and gas operators.

GESA Perth and Darwin branches house inventory in their warehouse to supply a large client base and to support their workshop facilities.

These facilities operates an extensive range of hose assembly equipment including:

- Crimping and swaging machines to terminate small and large bore industrial hoses up to 250mm in diameter with either carbon or stainless steel end fittings.
- Crimping machines capable of fitting high pressure and ultra-high pressure hydraulic hoses up to 50mm in diameter with either carbon or stainless steel end fittings. Various end terminations are available, such as NPT or BSP threads and fixed or floating flanges.
- Repair and recertification of offloading hoses to OCIMF guidelines and manufacturer recommendations.
- Hydrostatic pressure test equipment capable of testing FHAs up to 4,000bar.
- Data logger and chart recorder to provide a graphic record to support the hydrostatic test certificate.
- Burst testing is regularly undertaken to provide type test reports which support the GESA hose and end fitting combination and termination method.



DRILLING PRODUCTS AND SERVICES

GATES BLACK GOLD® DRILLING HOSES

Today's deeper drilling depths, directional drilling and advanced technologies demand products that maximize performance, quality, and longevity.



Gates Black Gold® Drilling Hoses are engineered specifically for drilling operations and are manufactured and assembled in the United States to API standards.

	Working Pressure (psi)	Test Pressure (psi)	Nom ID (in)							
			1	1-1/2	2	2-1/2	3	3-1/2	4	5
Black Gold® FSL1 Rotary Drilling/Vibrator Hose	5,000	10,000				X	X	X	X	X
	Grade D									
	7,500	15,000				X	X	X	X	
Black Gold® Choke & Kill Hose	5,000	10,000				X	X	X	X	
	10,000	15,000				X	X	X		
	15,000	22,500				X	X			
Black Gold® Sour Service Hose	5,000	10,000				X	X	X	X	
	7,500	15,000				X	X	X	X	
Black Gold® FSL0 Cementing Hose	5,000	10,000			X	X	X	X	X	
	10,000	15,000		X	X	X	X	X		
	15,000	22,500				X	X			
Black Gold® Motion Compensator Hose	5,000	10,000				X	X	X	X	X
	Grade D									

Gates Black Gold® Cementing Hoses are used as a flexible connection between the cementing pump manifold and cementing head for conveyance of cement slurries at high pressure.



Black Gold® 2" 5000psi Cementing Hose

Temperature range: -20°C to +121°C [-4°F to +250 °F] continuous service. Meets or exceeds: Specification 4651ZL

NOM ID (in)	NOM OD (in)	Min Bend Radius (in)	Wt Per Ft. (Lbs.)	Crimped Cplgs wts. 1502 Hammer Union Assy. (Lbs.)		Max Length of Hose (ft)	Safety Clamp & Chain Part No.	Spec.	Max Working Pressure (psi.)
2	2.80	36	4.63	Female Sub Seal 7341 - 1569 [7.8 Lbs.]	Male Sub Nut 7341 - 1571 [17.7 Lbs.]	200	7361 - 6550	46157A	5,000



Black Gold® 2" 10,000psi Cementing Hose

Temperature range: -20°C to +121°C [-4°F to +250 °F] continuous service. Meets or exceeds: API Spec 7K & ISO 14693

NOM ID (in)	NOM OD (in)	Min Bend Radius (in)	Wt Per Ft. (Lbs.)	Crimped Cplgs wts. 1502 Hammer Union Assy. (Lbs.)		Max Length of Hose (ft)	Safety Clamp & Chain Part No.	Spec.	Max Working Pressure (psi.)
2	2.80	48	4.66	Female Sub Seal 7341 - 1569 [7.8 Lbs.]	Male Sub Nut 7341 - 1571 [17.7 Lbs.]	200	7361 - 6550	46157A	10,000

FUEL TRANSFER PRODUCTS

From oilfield service to petroleum dispensing, Gates brings you the industry's premier line of petroleum transfer hose.



Longhorn® Petroleum Transfer Hose

Designed for oilfield service truck use as well as transferring refined fuels, oils and other petroleum products.

Hose Design Factor 4:1

Nom ID (in)	Nom OD (in)	Working Pressure (psi)	Suction (in.Hg)	Min Bend Radius	Cover Type	Wt Per Ft (lbs)	Standard Pack	Product No.
1	1.50	1.50	30.0	3.0	Smooth	0.54	100 ft*	4688-1305
1-1/4	1.75	1.50	30.0	4.0	Smooth	0.71	100 ft*	4688-1306
1-1/2	2.02	1.50	30.0	4.0	Smooth	1.05	100 ft*	4688-1307
2	2.52	1.50	30.0	6.0	Smooth	1.34	100 ft*	4688-1308
2-1/2	3.05	1.50	30.0	8.0	Smooth	1.76	100 ft*	4688-1309
3	3.53	1.50	30.0	9.0	Smooth	2.40	100 ft*	4688-1310
4	4.62	1.50	30.0	12.0	Smooth	3.29	100 ft*	4688-1311
6	6.87	1.50	30.0	17.0	Smooth	5.91	100 ft*	4688-1465
2	2.52	1.50	30.0	5.0	Corrugated	1.08	100 ft*	4688-1351
3	3.53	1.50	30.0	8.0	Corrugated	2.67	100 ft*	4688-1352
4	4.64	1.50	30.0	11.0	Corrugated	3.14	100 ft*	4688-1353
6	6.87	1.50	30.0	17.0	Corrugated	5.91	100 ft*	4688-1612

*200 ft standard pack also available



Sea Horse® HW Fuel Suction/Discharge Hose

A hardwall hose used for the transfer of water, petroleum based fluids, dilute acids, chemicals and abrasive slurries. Ideal for onshore and offshore refined fuel transfer.

Hose Design Factor 4:1

Nom ID (in)	Nom OD (in)	Working Pressure (psi)	Suction (in.Hg)	Min Bend Radius	Wt Per Ft (lbs)	Standard Pack	Product No.
2	2.78	300	30.0	10.0	1.60	200 ft	4688-0584
3	3.86	300	30.0	18.0	2.59	200 ft	4688-0585
4	4.87	300	30.0	24.0	3.52	200 ft	4688-0587
6	7.07	300	30.0	36.0	7.95	200 ft*	4688-0588

*100 ft standard pack also available

FUEL TRANSFER PRODUCTS

Varying applications require different construction features. Gates product development engineers deliver market-focused solutions to meet performance demands.



Oilfield Service 400SD (Suction & Discharge) Frac Hose

Built for demanding suction and high pressure discharge operations. Hose has a wire helix construction to prevent collapsing in suction applications.

Hose Design Factor 4:1

Nom ID (in)	Nom OD (in)	Working Pressure (psi)	Suction (in. Hg)	Min Bend Radius	Wt Per Ft (lbs)	Standard Pack	Product No.
2	2.84	400	30.0	15.0	2.03	200ft	4688-0590
3	4.00	400	30.0	20.0	3.66	200ft	4688-0591
4	4.99	400	30.0	25.0	4.64	200ft	4688-0592



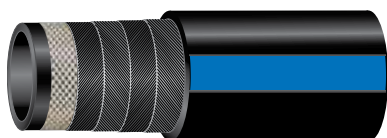
500psi Fuel Hose

Suction hose, oil rig heavy duty application, for discharge of liquid mud, petroleum and it derivatives with aromatic content up to 50%.

Temperature range: -30°C to +100°C (-22°F to +212 °F)

I.D.		O.D.		Weight [kgs/m]	Working Pressure		Burst Pressure		Bending Radius [mm]	Vacuum [bar]	Product No.
[in]	[mm]	[in]	[mm]		[bar]	[psi]	[bar]	[psi]			
3"	76	3 55/64	98	4,0	34	510	136	2040	270	0,9	FHW34B076
4"	102	5 3/64	128	5,0	34	510	136	2040	390	0,9	FHW34B102

OILFIELD SUPPORT PRODUCTS



Powerbraid® Plus [Slim Hole Rotary]

Rotary applications on workover rigs and slim hole and seismograph rigs designed to operate at a maximum of 1,500 to 5,000 PSI rated working pressure. Applications on small or medium sized drilling rigs used for water well operations, water well core drill, blast or shot hole applications. Hoses are flexible connectors in pressure lines used in conveying mud or air. For normal air or mud applications and where increased resistance to external abuse or pump pulsations is required.

Temperature range: -40°C to +180°C [-40°F to +82 °F]

Meets or exceeds: Tube – APRM [Class A] High oil resistance. Cover – Meets MSHA 30 CFR 18.65. Flame Resistant.

Nom I.D.		Nom O.D.		Max Working Pressure		Suction		Min Bend Radius		Wt. per Ft.		Standard Pack	Product No.
[in]	[mm]	[in]	[mm]	[Psi.]	[MPa]	inch, Hg	mm, Hg	[in]	[mm]	[lbs.]	[kg]		
2"	50.8	2.63"	66.8	3000	20.68	-	-	25"	635	2.95	1.34	50 ft	0655
2"	50.8	2.63"	66.8	3000	20.68	-	-	25"	635	2.95	1.34	200 ft	0660
2 1/2"	63.5	3.38"	85.9	2500	17.24	-	-	30"	762	3.60	1.64	50 ft	0656
3"	76.2	3.90"	99.11	2000	13.79	-	-	36"	914	4.74	2.15	50 ft	0657
4"	101.6	5.06"	128.5	1500	10.30	-	-	48"	1219	7.22	3.28	50 ft	0701



BOP MegaShield® 5000 – Blow-Out Preventer Hose

Recommended for: Drilling well BOP control systems

Temperature range: -40°C to 100°C [-40°F to 212°F]

Meets or exceeds: Lloyds certified to API 16D and Lloyds 1000/499

Fire Test – 5 mins at 700°C [1300°F]

Hose I.D.		Hose O.D.		Working Pressure		Min Burst Pressure		Min Bend Radius		Weight		Description	Product No.
[mm]	[in]	[mm]	[in]	[bar]	[psi.]	[bar]	[psi.]	[mm]	[in]	[kg/m]	[lb/ft]		
6.3	1/4"	19.6	.77"	350	5,000	1,400	20,000	100	4"	.55	.37	4BOP MEGASHIELD 5000	36700760
9.5	3/8"	23.5	.93"	350	5,000	1,400	20,000	125	5"	.77	.52	6BOP MEGASHIELD 5000	36700761
12.5	1/2"	26.7	1.05"	350	5,000	1,400	20,000	180	7"	.94	.63	8BOP MEGASHIELD 5000	36700762
19	3/4"	35.1	1.38"	350	5,000	1,400	20,000	240	9.5"	1.56	1.05	12BOP MEGASHIELD 5000	36700763
24.4	1"	42.4	1.67"	350	5,000	1,400	20,000	300	12"	2.63	1.77	16BOP MEGASHIELD 5000	36700764
31.5	1 1/4"	53.6	2.11"	350	5,000	1,400	20,000	420	16.5"	3.97	2.67	20BOP MEGASHIELD 5000	36700765
38	1 1/2"	61.2	2.41"	350	5,000	1,400	20,000	500	20"	5.36	3.60	24BOP MEGASHIELD 5000	36700766
51	2"	75.2	2.96"	350	5,000	1,400	20,000	635	25"	8.53	5.73	32BOP MEGASHIELD 5000	36700767

OILFIELD SUPPORT PRODUCTS

Gates has a full line of oilfield support products including dock hoses and potable water hose.



300psi Bulk Hose

Delivery hose for non-oily abrasive materials, suitable for water drilling equipment applications on oil rigs, oil fields and docks.
Temperature range: -30°C to +80°C [-22°F to +176 °F]

I.D.		O.D.		Weight	Working Pressure		Burst Pressure		Min. Bend Radius	Product No.
[in]	[mm]	[in]	[mm]	[kgs/m]	[bar]	[psi]	[bar]	[psi]	[mm]	
4"	102	4 7/8	124	4,50	20	300	80	1160	480	BHW20B102
5"	127	5 7/8	149	5,82	20	300	80	1160	850	BHW20B127



Potable Water Hose

Suction and delivery hose to transfer potable water from vessel to the oil rig.
Meets or Exceeds: FDA, BfR

I.D.		O.D.		Weight	Working Pressure		Burst Pressure		Bend Radius	Vacuum	Product No.
[in]	[mm]	[in]	[mm]	[kgs/m]	[bar]	[psi]	[bar]	[psi]	[mm]	[bar]	
3"	76	3 3/4	96	3,3	20	300	80	1200	320	0,9	PHW20B076
4"	102	4 7/8	124	6,0	20	300	80	1200	600	0,9	PHW20B102

The Gates lineup of new well stimulation products are designed to stand up to the harshest applications and are built specifically to keep your operations running at maximum production.



Mustang® Acid-Chemical Hose

Gates Gatron™ modified cross-linked, polyethylene tube construction makes this hose the preferred choice for conveying more than 950 basic acids and chemicals.

Hose Design Factor 4:1

Nom I.D.	Nom O.D.	Working Pressure	Min Bend Radius	Cover Type	Wt. per Ft.	Standard Pack	Product No.
[in]	[in]	[Psi.]			[lbs.]		
3/4*	1.25	200	4.0	Black	0.45	100 ft	4695-0002
1*	1.50	200	5.0	Black**	0.56	100 ft	4695-0003
1-1/4	1.75	200	6.0	Black	0.70	100 ft	4695-0004
1-1/2*	2.04	200	8.0	Black**	0.87	100 ft	4695-0005
2*	2.54	200	9.0	Black**	1.08	100 ft	4695-0001
2-1/2	3.05	150	12.0	Black	1.41	100 ft	4695-0006
3	3.58	150	18.0	Black**	1.81	100 ft	4695-0007
4	4.69	125	24.0	Black	2.72	100 ft	4695-0008

*Crush resistant construction also available.

**Green cover also available.

HAMMER UNIONS

Material

Sara unions are manufactured from steel forgings using materials appropriate to specific pressure ratings.

End Connections

Sara unions are available in a choice of end connections. API line pipe threads are standard. Butt weld ends can be provided. Customer to specify schedule of pipe while ordering.

Sour Service

Sour service is available and all H2S service parts of Sara unions conform to the latest NACE specifications.

Low Temperature Service

Sara unions can be supplied for low temperature applications with suitable impact value testing.

Interchangeability

All Sara union components of the same size and figure number are Weco interchangeable.

All Sara union nuts have three hammer lugs.

Traceability

Sara unions are supplied with full traceability documentation for each component.



Assembly Colour Key For Standard Service	Pressure Rating (psi)				Nominal Pipe Size (in,mm)												
	Standard Service		Sour Gas Service		1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	
	Cold Working	Test	Cold Working	Test	25	32	40	50	65	80	100	125	150	200	250	300	
50	500	750	N/A	N/A								✓					
100	1,000	1,500	N/A	N/A				✓	✓	✓	✓	✓	✓	✓			
200	2,000	3,000	N/A	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
206	2,000	3,000	N/A	N/A	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		
207	2,000	3,000	N/A	N/A						✓	✓		✓				
211	2,000	3,000	N/A	N/A				✓		✓							
400	2,500	3,750	2,500	3,750									✓	✓	✓	✓	
400	4,000	6,000	4,000	6,000				✓		✓	✓						
600	6,000	9,000	N/A	N/A	✓			✓		✓	✓						
602	6,000	9,000	6,000	9,000	✓	✓	✓	✓		✓	✓	✓					
1002	10,000	15,000	7,500	12,000	✓	✓	✓	✓		✓	✓	✓					
1003	10,000	15,000	7,500	12,000				✓		✓	✓	✓					
1502	15,000	22,500	10,000	15,000	✓			✓		✓	✓						
2002	20,000	30,000	N/A	N/A				✓		✓	✓						
2202	N/A	N/A	15,000	22,500				✓									

HOSE FLOATS & BREAK AWAY COUPLINGS

HOSE FLOATS

- Shaped float end ensures less drag and streamline profile, reduces the risk of endangerment.
- Made in two sections that can be either bolted or strapped together around the hose pipe.
- Adaptable internal urethane spacers that suit hose/pipe diameters from 10mm to 130mm.
- Stainless steel nuts, bolts and washers.
- High impact and UV resistant polyethylene.
- Floats have the option of polyurethane foam filling.
- Capacity is based on fully submerged float.



Code	Foam Filled	Description	Inside Diameter (mm)	Outside Diameter x Length (mm)	Capacity (Ltr.)	Unit (Kg)
FL3010	No	Slurry Collar	10 - 130	300 x 600	22	4
FL3009	Yes	Slurry Collar	10 - 130	300 x 600	22	4.5

COUPLING SIZES AND CONNECTIONS



Nominal Width	Breaking Force [1]	Connection [2]	Kg (Stainless)	Kg (Aluminium)
1"	4 kN	1" Thread	-	-
		1" Flange	-	-
2"	13 kN	2" Thread	2,6	0,9
		2" Flange	7,3	2,5
2½"	22 kN	2½" Thread	7,4	2,5
		2½" Flange	13,2	4,5
3"	33 kN	3" Thread	8,5	2,9
		3" Flange	15,1	5,1
4"	52 kN	4" Thread	15,5	5,3
		4" Flange	20,7	7,0
6"	92 kN	6" Thread	46,8	15,9
		6" Flange	57,6	19,6

1) Mann Tek Standard. Other on request.

2) **Threads:** Female and Male [F/F - F/M - M/M] BSP, Female and Male [F/F - F/M - M/M] NPT
Flanges: ANSI 150 psi / ANSI 300 psi, DN 25-150 PN 10/16 and PN 25/40, TW1/50, TW3/80, TW7/150, T.T.M.A
Others: Victaulic

DRY DISCONNECT COUPLINGS



Dry break couplings are available in 1" - 4" in size.

Connections

4" in BSP, NPT and flanged inlet

Applications

Recommended for any application where spillage needs to be minimised.

Media

Petroleum products: Gasolin, diesel, oil etc.

Chemical products: Ethylene oxide, propylene oxide, acrylonitrile, butadiene, ammonia, vinyl chloride, toluene, xylene, sulphuric acid, phenol etc.

Gas:

Dry powder: Chokolade powder e.t.c.

Material

Aluminium, Brass/Gunmetal, Stainless Steel, Hastelloy C and PEEK. Other materials on request.

Seals

Standard seals in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile). Other materials on request.

High Flow Rates / Low Pressure Drop

Allows maximum product transfer with minimal losses

Maximum Flow Rates

3500 litres/minute

Selectivity

- Avoid mixing products:

To avoid product contamination caused by connecting a hose unit to the wrong tank unit, selective versions of the hose and tank units are available. Each unit has a number of selective positions, designated by a coded part number according to the coupling size - specify when placing order.

Interchangeability

Compatibility with other existing brands for example TODO (Gardner Denver), Avery Hardoll and Emco Wheaton.

Coupling standard: NATO STANAG 3756

Material	Max Working Pressure	Test Pressure	Min Bars Pressure
Aluminium	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi
Brass/Gun Metal	16 bar / 232 psi	24 bar / 345 psi	80 bar / 1160 psi
Stainless Steel	25 bar / 363 psi	37.5 bar / 544 psi	125 bar / 1813 psi



ADDITIONAL OIL & GAS SUPPORT PRODUCTS

HOSE MANAGEMENT SERVICES

GESA's Hose Management Services (HMS) has evolved to become an integral tool for major oil and gas operators to manage their total hose needs. The delegation of these responsibilities to a specialised HMS contractor ensures current best practice and latest industry technology is applied.

These services represent a proven process for managing assets to produce reliability, productivity, and business value. HMS also assists clients in regulatory compliance and pursuit of best practices as well certification and/or recertification all hose installed.

An effective HMS system starts with a comprehensive Flexible Hose Management Policy which incorporates FHA design and quality principles, installation and handling guidelines and maintenance strategy objectives.

FHA design and quality principles covers the production of FHAs to an approved Hose Data Sheet which details all aspects specific to its function location, service conditions, construction, testing, quality requirements and document delivery.

GESA HMS offers auditing services to oil and gas operators to confirm they comply with their FHA policies. This is achieved through on-site hose surveys, condition inspections, operational observations, HSE issue identification, maintenance strategy reviews and improvement recommendations.

Gates Sentry™ is a state of the art RFID tagging system that allows storage of all data pertinent to any hose assembly for the purpose of providing asset management services. The Sentry ID™ handheld readers will scan the FHA's unique ID number (UID) from the RFID tag and retrieve the information relevant to the work order.

The Sentry ID™ data is held on a web-based database designed to allow password protected access to specific hose information from any computer with internet access. The Sentry ID™ database has the ability to allow client specific preventative maintenance programs to be created including schedules, work scopes, alerts and order generation.

Gates' Sentry Services also offers Sentry IQ™ which is designed to provide real time pressure and temperature measurements. Data is uploaded via a remote website with a number of connectivity options such as LAN, GPRS or Satellite. This utilises Gates' cumulative damage algorithms to provide end of life predictions for critical hydraulic hose assemblies.

GESA provide different levels of Hose Management Services to varying client requirements. Our methodology is based on principles involving Discovery, Audit Plan, Job Execution, Report and HMS Proposal.





ADDITIONAL OIL & GAS SUPPORT PRODUCTS

I.M.R. – THE EFFECTIVE HOSE REVALIDATION PROGRAM

Periodic inspection and testing of hose and flexible pipe assemblies is an essential component of any successful oilfield equipment maintenance program.

In drilling, well service or stimulation operations, an effective Inspection, Maintenance and Recertification [IMR] program will help maximise asset reliability and reduce downtime while ensuring compliance with industry standards and regulations.

WHY GATES:

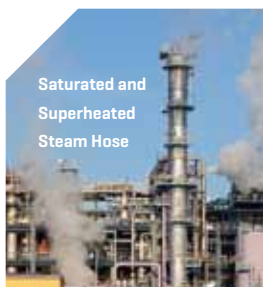
- Gates technical expertise and rig experience
- Gates IMR service to your door step

GATES IMR SERVICE BENEFITS:

- IMR mobile service at your door step
- Equipment integrity
- Keep equipment up and maximise productivity
- Reduce downtime while ensuring compliance with industry standards and regulations
- Payback is immediate, substantial and quantifiable
- Conduct testing in accordance to HSE measures and OEM requirements
- Environmentally friendly testing equipment, no disposed of hazardous waste
- Onshore/off-shore on-site pressure testing of hoses up to 30,000 psi.



Count on Gates engineering support, application experience, and broad range of high-performance products, to keep your equipment running safely and at peak performance.



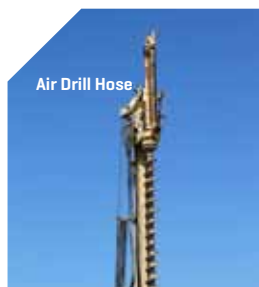
Saturated and
Superheated
Steam Hose



Material Handling +
Dry Cement Delivery
Hot Air Blower



Air+ Multi-Purpose
Hose for a Wide
Range of Applications



Air Drill Hose



Wide Range of
Hydraulic Hoses and
Couplings

Gates Engineering & Services

101 Sheffield Road
Welshpool, WA
PH: +61 8 9258 8399
EMAIL: gesa.perth@gates.com
www.Gates.com

101 Pruen Road
Berrimah, Darwin NT
PH: +61 8 8947 0983
EMAIL: gesa.darwin@gates.com

