



Innovation at your service
www.pronal360.com

Industry & Maintenance

Products catalog



Lift



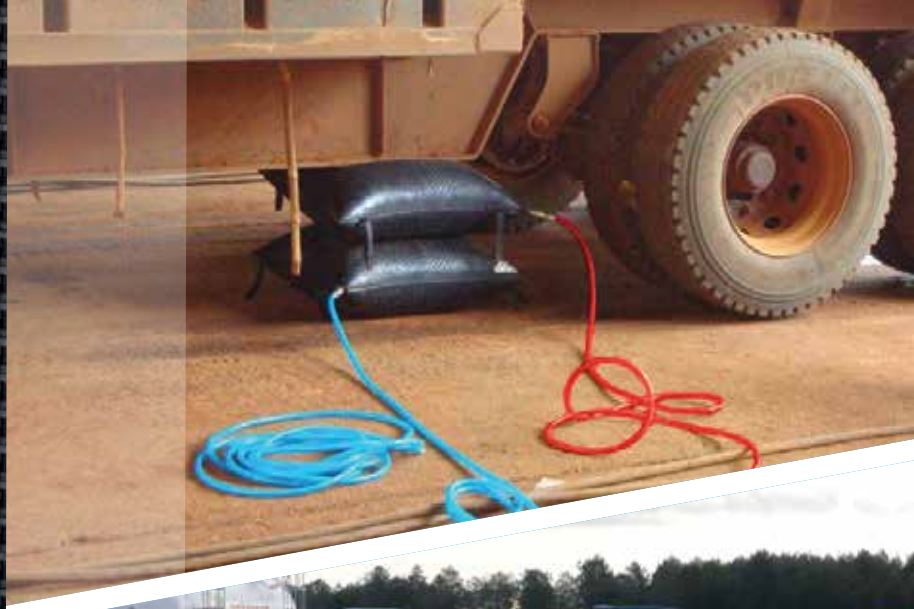
Store



Plug



Secure

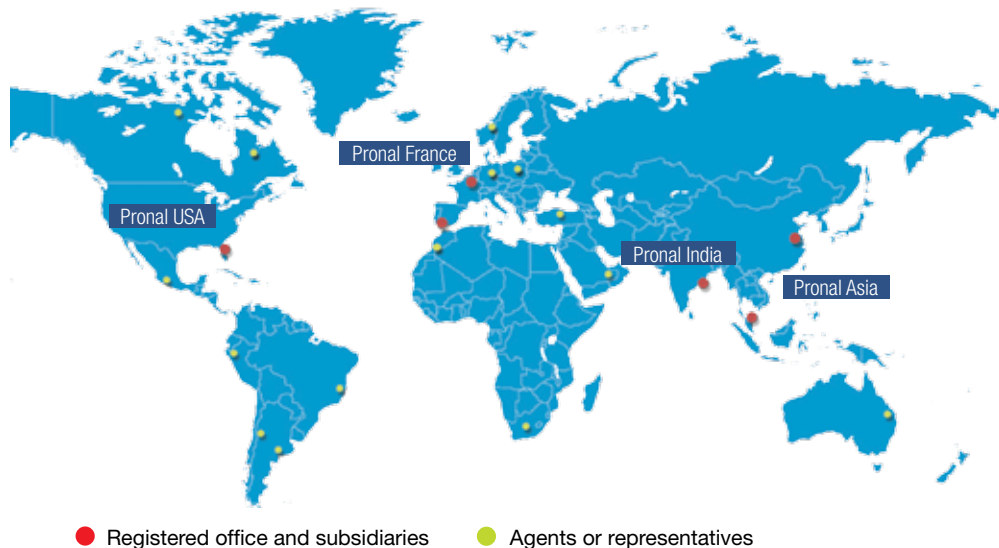


PRONAL

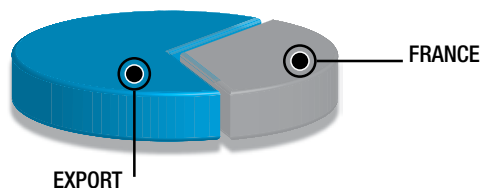
An industrial SME for more than 50 years, PRONAL is constantly working to create and improve their design of their state of the art flexible and/or inflatable structures made from **Elastomers, Plastomers or Composite materials**.

Our products range from flexible storage and transportation tanks, flexible lifting bags, seals, membranes, lifting cushions, pipe stoppers, grippers, compensators, aircraft lifting cushions and numerous products made to custom design.

➡ A GLOBAL PRESENCE



70% of total turnover goes to export



➡ THE CORE OF OUR BUSINESS : the concept of flexibility

Since 1961, **PRONAL** has been producing technical flexible products - both standard and custom-designed - made from fabrics coated with elastomers, plastomers and composite materials.

PRONAL's development strategy is underpinned by 3 key priorities :

• INNOVATION

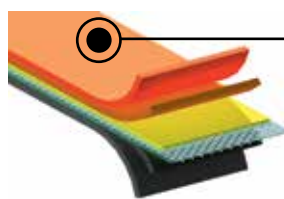
Uncreasing innovation in the fields of materials and technologies, with the constant goal of enhancing their performance.

• DIVERSIFICATION

Product diversification centred on the concept of flexibility.

• QUALITY

Quality maintained at all levels, with constant attention to customers' needs.



- Lightness
- Impermeability
- High traction strength
- Flexibility
- Elasticity
- Resistance to climatic conditions, abrasion and perforation

Solutions for your every need :

- 1 LIFTING
- 2 STORAGE
- 3 PLUGGING
- 4 SECURE
- 5 COMPRESSING
- 6 SEPARATING

1



Our Assets

➡ CUSTOM DESIGNED AND INNOVATIVE PRODUCTS tailored to your needs



Listening, understanding, innovating

Our experts analyze your specific needs and deliver innovative and customized solutions.

- Dedicated Research & Development teams
- A highly skilled engineering and design office
- Use of state-of-the-art software
- Over 50,000 products made to date



➡ A STATE-OF-THE-ART PRODUCTION FACILITY for customised solutions

Assembling, vulcanising, welding

- Our people possess outstanding technical and industrial know-how in the concept of flexibility
- Our technical fabrics are consistently maintained at the highest quality, from design right through to deployment.
- We have innovative and efficient means of assembly : vacuum, high-temperature vulcanization, high-frequency welding, cutting machine etc.

Installing, training and advising

- Work site coordination during installation
- On-site installation assembly
- Servicing, maintenance and assistance
- Training





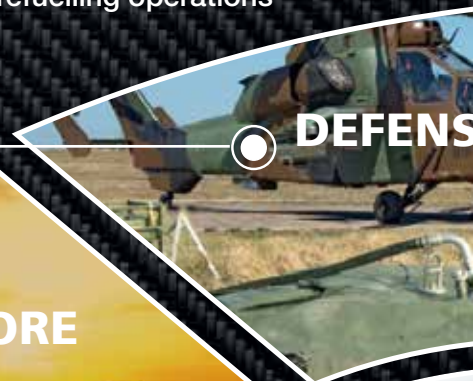
- Buoyancy equipment for jacket installation
- Equipment for grouting operations for fixed platforms
- Subsea hyperbaric welding operations
- Repairs on damaged caisson
- Stoppers and underwater structures for salvage & de-commissioning operations
- Subsea storage



- Permanent or transportable bladders
- Flexible tanks for water storage
- Flexible tanks for hydrocarbons storage
- Pumping system for logistic & refuelling operations



OFFSHORE



DEFENSE



NUCLEAR



CONSTRUCTION ENVIRONMENT



- Flexible tanks for temporary storage (chemical effluents, fire protection, ...)
- Plugs (Security & Foreign Material Exclusion, Inspection, Antipollution, Repair & isolation...)
- Volume compensator
- Earthquake solutions
- Contingency measures

Our global market



- Drinking water supplies & water purification unit



- Aircraft recovery cushions
- Embebbed bladders
- Additionnal bladders
- Composite for aircraft & helicopters



AERONAUTIC

Global Markets



INDUSTRY ENGINEERING



- Pneumatic lifting bags
- High pressure lifting bags
- Low pressure lifting bags
- Hydraulic compensators

CONSTRUCTION ENVIRONMENT



- Flexible tanks for storage (water, effluents, hydrocarbons, ...)
- Pipe plugs
- Earth & sea booms (anti-flooding / antipollution)
- Pneumatic protection shields for trenches

Editorial

Whether working onsite or off, PRONAL recognizes the day-to-day problems operation workers face in addition to their normal activities, including :

➡ **LIFTING,**
moving or maintaining heavy loads

➡ **STORING**
water, waste, or fuel for short or long term storage

➡ **PLUGGING PIPE**
for maintenance or containment of fluids

➡ **PROTECTING**
the environment and the people working
alongside it every day

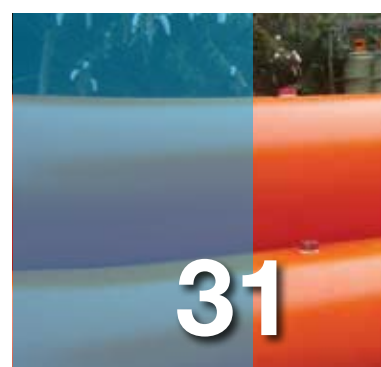
Here at PRONAL, we understand the importance of **respecting deadlines and productivity**, there can be no room for miscalculations on the jobsites.

For **50 years**, **PRONAL** has developed numerous partnerships with clients, **creating and improving products along the way** to create the perfect solutions for our clients every day. Through **PRONAL 360**, we are proposing a series of flexible products dedicated **to lifting, storing, plugging and protecting**, all with the ultimate goal of working closely with our customers to accomplish their goals in an :

“ **EFFECTIVE AND SECURED INTERVENTION** ”

Through this catalog, discover PRONAL's solutions dedicated to the Industry and the maintenance services. Contact us for all particular projects which might require our expertise.

Yours Sincerely
François DESPATURES
PRONAL CEO



Contents



08

08 Lift

- 09 CLC : Cylinder lifting cushion
- 10 CLT : High pressure lifting bag
- 12 CPF : Platform lifting cushion
- 13 Accessories
- 14 PSM : Submarine lifting bag
- 15 RDF : Lifting unit



16 Store

- 17 Raw water storage
- 18 Drinking water storage
- 19 Fire tank
- 20 Industrial storage
- 21 Fuel bladder
- 22 Other storage
- 23 Accessories



24

24 Plug

- 25 Vari-Plug : Inflatable pipe stopper
- 26 3D-Plug : High pressure plug
- 27 Accessories & Back pressure
- 28 Pollu-plug : Antipollution stopper
- 30 Other plugs : OPV - OHP - OTR



31 Secure

- 32 Smartshore : Pneumatic protection shield
- 34 Proteclood : Anti-flooding barrier
- 34 BAPG : Inflatable barrier
- 35 Balear - Fence : Antipollution barrier

TO LIFT

PRONAL lifting bags are designed to efficiently lift, push, compress or isolate objects in industrial applications.

➔ **EASY**
to use

➔ **QUICK**
to set up

➔ **Steady**
LIFTING



CLC // Cylinder lifting bag

 Lift

 Store

 Plug

 Secure



Cylindrical

CLC

PRONAL Cylindrical Lifting Bags are used for lifting loads, machinery or vehicles in any working sector.

Due to its design, CLCs **offer a significantly higher lifting height than conventional lifting bags.**

Advantages



High lifting height (40")



Lift loads of up to 13 US tons



Used with all types of soil
(Soft earth, gravel, snow-covered...)



Low working pressure (15PSI)

REF.	CODE	DIMENSIONS (inch)	DEFLATED THICKNESS (inch)	WEIGHT (lbs)	MAX LIFT CAPACITY (US tons)	MAX LIFTING HEIGHT (inch)	AIR CAPACITY (CU.FT)
3T	112370	24	2	5	3.3	17	9.4
5T	112371	30	2	9	5	23	20
7T	112372	36	2.75	14	7.3	24	29
12T	112373	48	4	28	13	40	87

For all CLC models : Working pressure (PSI) = 15 | Pressure test (PSI) = 15 | Bursting pressure > 51 PSI

Applications

- Vehicle maintenance
- Moving machinery
- Turning over heavy loads
- Constant and regular lifting of all loads
- Locking and holding machinery

CLT // High-pressure lifting bag

 Lift

 Store

 Plug

 Secure



Non-sliding
surface

CLT

Due to how lightweight and thin they are, **PRONAL high-pressure lifting bag** can be used in numerous fields, such as the construction industry...

Unlike the hydraulic jack, **they have a very small footprint at rest.**

Advantages



Lift loads of up to 72 US tons



Lifting Height of up to 20"



Inflatable on unstable soil



Working pressure of 116 PSI

REF.	CODE	DIMENSIONS (inch)	THICKNESS (inch)	WEIGHT (lbs)	MAX LIFT CAPACITY (US TONS)	MAX LIFT HEIGHT (inch)	AIR CAPACITY (CU.FT)
CLT 1	058156	6 x 6	1	1.3	1.1	3.5	0.18
CLT 3	058157	8 x 8	1	2.2	3.3	4.5	0.42
CLT 6	058158	12 x 12	1	6.6	6.6	6.9	1.5
CLT 10	058159	15 x 15	1	8.8	11	8.7	3
CLT 14	058160	17 x 17	1	11	15.5	9.6	4
CLT 19	058161	20 x 20	1	17.6	21	11.6	7.2
CLT 24	058162	22 x 22	1	20	26	12.6	9.5
CLT 24L	058163	40" x 12"	1	20	26	8.5	8
CLT 30	058164	24 x 24	1	22	33	13.6	12.9
CLT 43	058165	30 x 30	1	33	47.3	16	20
CLT 54	058166	33 x 33	1	41	59.4	18.3	32
CLT 65	058167	36 x 36	1	48	71.5	20	42

For all CLT models : Working pressure = **116 PSI** | Pressure test = **174 PSI** | Bursting pressure > **464 PSI**

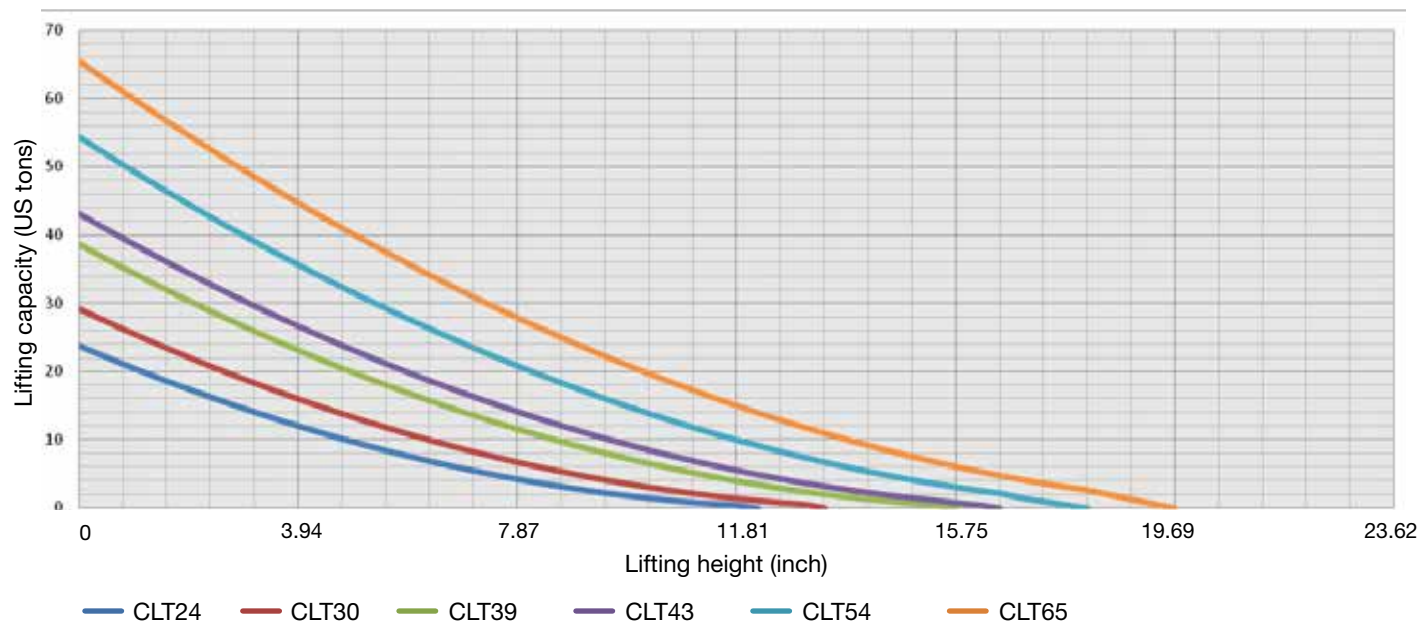
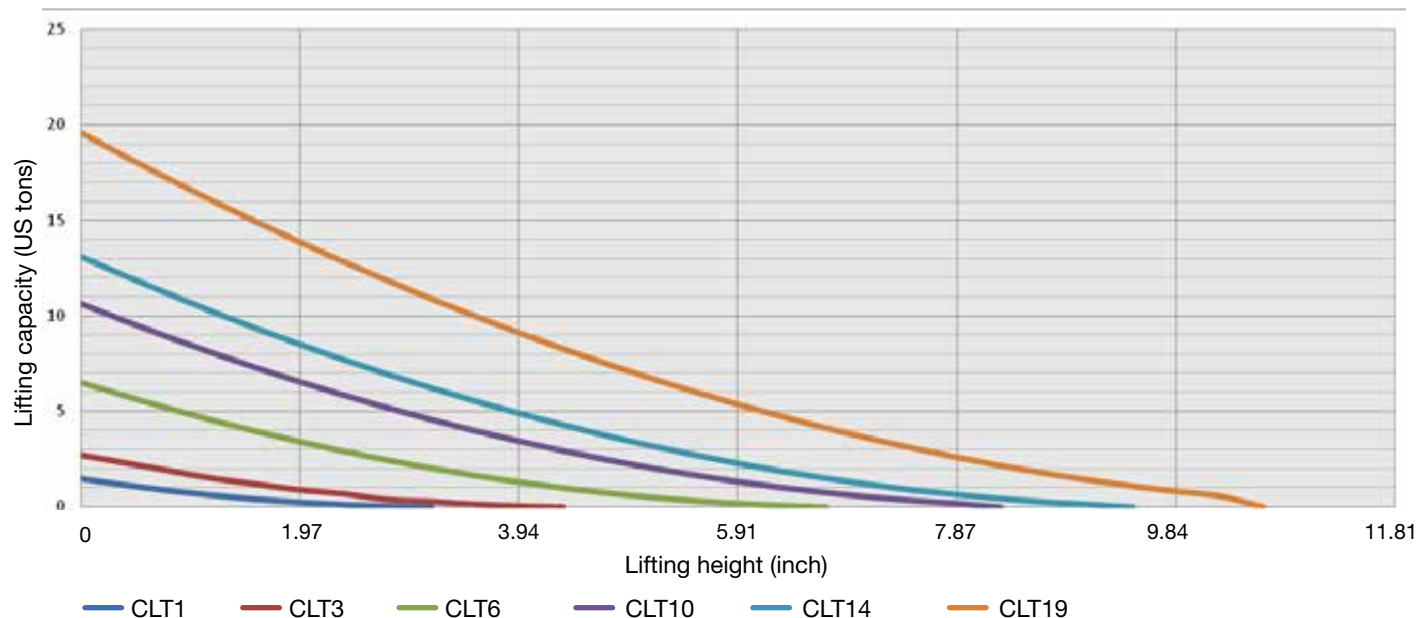
CLT // Technical data

 Lift

 Store

 Plug

 Secure



Applications

- Rescuing trapped people and objects
- Lifting or balancing heavy loads
- Vehicular maintenance
- Pipe leveling
- Moving and shifting machines or loads
- Mine and quarries

CPF // Platform lifting bag

 Lift

 Store

 Plug

 Secure



Flat top and
bottom

CPF

Thin and compact, PRONAL's Platform-Lifting Bag are used to **effortlessly lift heavy horizontal objects**.

Lift up to 20" high by stacking three lift bags.

Advantages



Operate in conjunction with PRONAL control systems



Up to 145 PSI inflation



Stackable by three

REF.	CODE	DIMENSIONS (inch)	THICKNESS (inch)	WEIGHT (lbs)	MAX LIFT CAPACITY (US TONS)	MAX LIFTING HEIGHT (inch)	AIR CAPACITY (CU.FT)
CPF 30/33	112929	22 x 22	1	24	34.5	6.7	1.13
CPF 38/42	111957	24 x 24	1	26.4	42.24	6.7	1.5
CPF 54/60	112930	30 x 30	1	39.6	62	6.7	2.4
CPF 68/74	112931	33 x 33	1	48.4	77.6	6.7	3.2
CPF 81/89	112932	36 x 36	1	57.2	93	6.7	4

For all CPF models : Working pressure = **145 PSI** | Pressure test = **174 PSI** | Bursting pressure > **580 PSI**

Applications

- Emergency services
- Vehicule lifting
- Maintenance
- Rescuing trapped people and objects
- Machine height adjustments




Accessories

 Lift

 Store

 Plug

 Secure

	REF.	DESIGNATION	CLC	CLT	CPF
	67752	"Joystick" Deadman controller, plastic housing, 2 outlets 1/4", 145 PSI			✓
	66908	"Joystick" Deadman controller, plastic housing, 2 outlets 1/4", 116 PSI		✓	
	67753	"Joystick" Deadman controller, plastic housing, 2 outlets 1/4", 15 PSI	✓		
	67754	"Joystick" Deadman controller, plastic housing, 3 outlets 1/4", 145 PSI			✓
	67755	"Joystick" Deadman controller, plastic housing, 3 outlets 1/4", 116 PSI		✓	
	67756	"Joystick" Deadman controller, plastic housing, 3 outlets 1/4", 15 PSI	✓		
	67759	"Push button" Deadman controller, aluminium housing, 1 outlet 1/4", 145 PSI			✓
	66907	"Push button" Deadman controller, aluminium housing, 1 outlet 1/4", 116 PSI		✓	
	67760	"Push button" Deadman controller, aluminium housing, 1 outlet 1/4", 15 PSI	✓		
	67757	"Push button" Deadman controller, aluminium housing, 2 outlets 1/4", 145 PSI			✓
	66906	"Push button" Deadman controller, aluminium housing, 2 outlets 1/4", 116 PSI		✓	
	67758	"Push button" Deadman controller, aluminium housing, 2 outlets 1/4", 15 PSI	✓		
	67761	"Simplified" controller, 1 outlet 1/4", 145 PSI			✓
	67192	"Simplified" controller, 1 outlet 1/4", 116 PSI		✓	
	67762	"Simplified" controller, 1 outlet 1/4", 15 PSI	✓		
	67763	"Simplified" controller, 2 outlets 1/4", 145 PSI			✓
	67193	"Simplified" controller, 2 outlets 1/4", 116 PSI		✓	
	67764	"Simplified" controller, 2 outlets 1/4", 15 PSI	✓		
	67180	Inflation hose, Red 16.4 ft Universal coupler 1/4" + nipple 1/4"	✓	✓	✓
	66902	Inflation hose, Red 32.81 ft Universal coupler 1/4" + nipple 1/4"	✓	✓	✓
	67179	Inflation hose, Blue 16.4 ft Universal coupler 1/4" + nipple 1/4"	✓	✓	✓
	66901	Inflation hose, Blue 32.81 ft Universal coupler 1/4" + nipple 1/4"	✓	✓	✓
	67751	Inflation hose, Yellow 16.4 ft Universal coupler 1/4" + nipple 1/4"	✓	✓	✓
	67750	Inflation hose, Yellow 32.81 ft Universal coupler 1/4" + nipple 1/4"	✓	✓	✓
	67187	Adaptor Claw Universal coupling	✓	✓	✓
	67188	Adaptor "Tête de chat" Universal coupling	✓	✓	✓
	66904	Shut off unit Universal coupler 1/4" + nipple 1/4"	✓	✓	✓
	66905	Pressure regulator 2901 PSI / 145 PSI	✓	✓	✓

PSM // Submarine lifting bag

 Lift

 Store

 Plug

 Secure



Sturdy
hook system

PSM, Submarine lifting bag

Underwater parachutes provide additional buoyancy to help lift submerged loads.

Their **sturdy design helps** insure **safety and efficiency when operated.**

Advantages



Range of 220 pounds to 5.5 US tons



Can be coupled together



High straps resistance to traction
Max 4500 daN, depending on models

REF.	HEIGHT (inch)	MAX HEIGHT (inch)	LIFT BAG DIAMETER (inch)	LENGTH OF STRAPS (inch)	VOLUME (cu.ft)	NUMBER OF STRAPS
PSM 1000	67	90.5	49	18	40	4
PSM 3000	108	132	67	22	120	9
PSM 5000	126	142	82	24	203	12

Other sizes on request

Applications

- Subsea stabilization of heavy load
- Underwater lifting of heavy load
- Additional buoyancy in nuclear pool
- Holding of heavy objects during offshore installation & maintenance

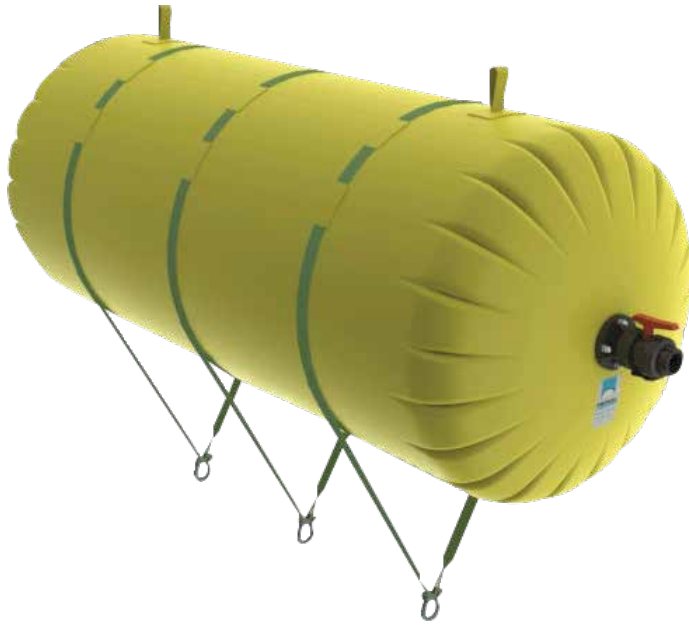
RDF // Lifting unit

 Lift

 Store

 Plug

 Secure



RDF, Lifting unit

PRONAL lifting units are used for raising submerged loads during refloating operations.

Made to measure, our lifting units bring efficient solutions to several markets requirements (offshore, nuclear...)

Advantages



Lifting capacities to 8.8 US tons



High straps resistance to traction, Max 10 000 daN, depending on models



Fitted with inflation devices and a quick-release pressure relief valve

REF.	LOAD (lbs)	DIAMETER (inch)	LENGTH (inch)	NO. OF STRAPS	HEIGHT (inch)	STEELROD WEIGHT (lbs)	TOTAL WEIGHT (lbs)
RDF 1000	2 200	41	59	2	20	22	55
RDF 3000	6 600	49	114	4	24.6	99	160
RDF 5000	11 000	59	114	5	29.5	110	189
RDF 8000	17 600	75	114	5	37.2	154.32	286

Other sizes on request

Applications

- Additional buoyancy
- Marine salvage and refloating operations
- Underwater load lifting or lowering
- Pipes levelling

TO STORE

Quick to install and requiring almost no maintenance, PRONAL flexible tanks are your key to temporary or permanent storage for all types of fluids :

- drinking and non-potable water,
- industrial wastes,
- fuel, and more ...

➔ **ECONOMICAL**
solution

➔ **EASY**
to install

➔ **RELIABLE**
to use



Raw water storage

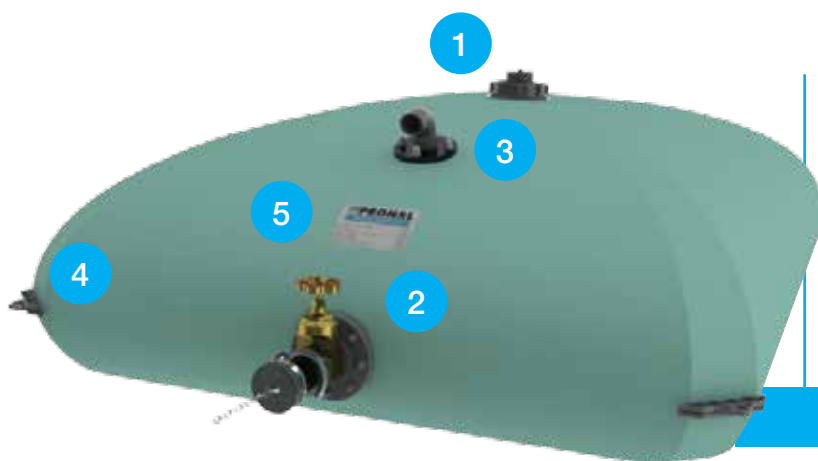
// Flexible storage tank

 Lift

 Store

 Plug

 Secure



*Details accessories mentioned in below table

Raw water storage

Today, **effective management and conservation of water resources** is a key economic and environmental challenge.

Thanks to their innovative design, PRONAL tanks are the best solution **to creating temporary or long term water reserves**.

Advantages

 Low investment

 Easy & quick to deploy

 No evaporation

 No maintenance

 No planning permit required

Volume (gallons)	1 300	2 600	5 000	13 000	26 400	66 000	13 200
Reference	109833	109839	109842	109848	109855	109869	109875
Dimensions (ft)	10x11.5x2.6	10x18x2.9	14x20x3.6	20x31x4	29x35x5	37x67x5	63x72x5
Weight (lbs)	60	92	143	283	475	1 045	2 090
Packing (inch)	40x24x25	48x32x22	48x32x30	48x32x38	53x37x42	85x50x54	86x67x40

Accessories

1	Simple vent	x1	x1	x1	x1	x1	x1
2	Side inlet / outlet	2 x Ø2"	2 x Ø2"	2 x Ø2"	2 x Ø2"	2 x Ø3"	2 x Ø3"
3	Overflow	1 x Ø2"	1 x Ø2"	1 x Ø2"	1 x Ø2"	1 x Ø3"	1 x Ø3"
4	Corner plates	x4	x4	x4	x4	x4	x4
5	Info marking	x1	x1	x1	x1	x1	x1
	Repair kit	x1	x1	x1	x1	x1	x1

Applications

- Water storage on construction sites
- Water storage for drilling operations
- Recovery
- Rainwater recovery

Drinking water storage

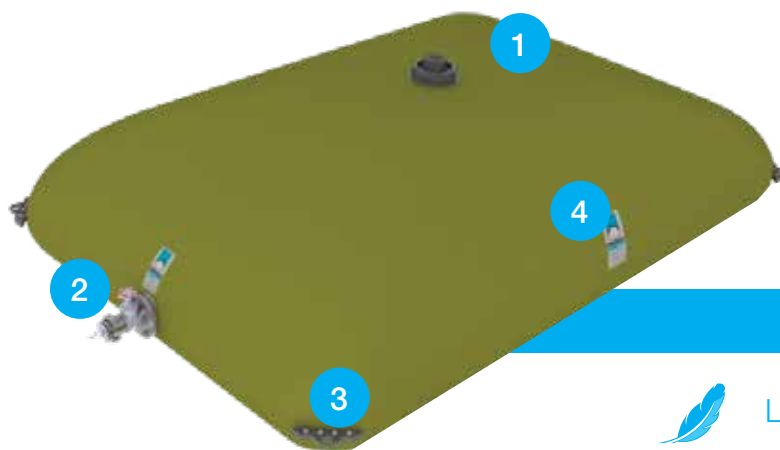
// Flexible storage tank

 Lift

 Store

 Plug

 Secure



Drinking water storage

It is often too difficult and costly for the traditional drinking water network to maintain isolated construction sites or living quarters. Having been designed to meet several food grade certifications, **our tanks are the optimal solution, and do not alter the quality of the stored drinking water**

Advantages



Light and foldable



Several food grade certifications



Protected against external contaminations



Resistant to hard climatic conditions



Easy to clean

Volume (gallons)	1 300	2 600	5 000	13 000	26 400	66 000	13 200
Reference	106904	106909	106912	106934	106944	106997	107003
Dimensions (ft)	10x11x2.6	14x14x3	14x21x3.3	21x29x4	25x42x5	42x54x2	60x75x5
Weight (lbs)	60	99	145	285	480	1 050	2 100
Packing (inch)	40x24x25	48x32x22	48x32x30	48x32x38	53x37x42	85x50x54	86x67x40

Accessories

1 Simple vent	x1	x1	x1	x1	x1	x1	x1
2 Side inlet / outlet	2 x Ø2"	2 x Ø2"	2 x Ø2"	2 x Ø2"	2 x Ø3"	2 x Ø3"	2 x Ø3"
3 Corner plates	x4	x4	x4	x4	x4	x4	x4
4 Info marking	x1	x1	x1	x1	x1	x1	x1
Repair kit	x1	x1	x1	x1	x1	x1	x1

Applications

- Water storage on isolated sites
- Drinking water on life camps
- Maintenance operations
- Buffer storage on networks

Firefighting reserve

// Fire tank



Lift

Store

Plug

Secure

Firefighting reserve

PRONAL has developed a range of flexible tanks designed to protect buildings from fire hazards.

Approved by the emergency response services and compliant with the current standards, PRONAL's fire tanks are the best solution to secure infrastructures at a minimal cost.

Advantages



Long service life



Useful capacity storage



Adapted to fire brigade couplings



Resistant to weather conditions



No structural work required

Volume (gallons)	16 000	26 000	32 000	42 000	64 000	95 000
Reference	110813	110821	110825	110836	110844	110852
Dimensions (ft)	21x32x4.5	25x42x5	28x42x5	32x48x5	42x52x5	49x64x5
Weight (lbs)	375	650	660	950	1 200	1 700
Packing (inch)	53x37x42	53x37x42	53x37x42	53x37x42	85x50x54	87x67x40
Accessories						
1 Simple vent	x1	x1	x1	x1	x1	x1
2 Side inlet / outlet	1 x Ø4"	1 x Ø4"	1 x Ø4"	1 x Ø4"	1 x Ø4"	1 x Ø4"
3 Corner plates	x4	x4	x4	x4	x4	x4
4 Info marking	x1	x1	x1	x1	x1	x1
Repair kit	x1	x1	x1	x1	x1	x1
Options						
Top inlet 2" 1/2	110885	110890	110898	110909	110916	110922

Applications

- Isolated site protection
- Extension of factories
- Extension of commercial sites
- Fire-extinguishing water collection

Industrial storage

// Waste & effluents tank

 Lift

 Store

 Plug

 Secure

Industrial storage

Designed and manufactured from **high-strength coated fabric**, PRONAL tanks are compatible with most acidic or basic solutions and are the ideal way to keep them stored securely.

Advantages



Watertight solution



Chemical compatible



Odor free storage



Temporary or permanent solution



Foldable & movable

*Details accessories mentioned in below table / Number 2 is not shown in the picture.

Volume (gallons)	13 000	26 000	52 000	78 000	105 000	130 000
Reference	110975	110982	110994	110997	111000	111002
Dimensions (ft)	21x28x4	24x42x5	38x48x5	46x58x5	52x68x5	60x76x5
Weight (lbs)	340	565	1 100	1 450	2 000	2 450
Packing (inch)	50x33x38	53x37x42	72x41x48	85x50x54	86x67x40	86x67x40

Accessories

1	Man hole	x1	x1	x1	x1	x1
2	Side inlet / outlet	2 x Ø4"	2 x Ø4"	4 x Ø4"	4 x Ø4"	4 x Ø4"
3	Overflow	2 x Ø3"	2 x Ø3"	4 x Ø3"	4 x Ø3"	4 x Ø3"
4	Corner plates	x4	x4	x4	x4	x4
5	Info marking	x1	x1	x1	x1	x1
	Repair kit	x1	x1	x1	x1	x1

Applications

- Waste water treatment
- Chemical effluents storage
- Buffer storage during recycling
- Sewage sludge storage

Fuel bladder

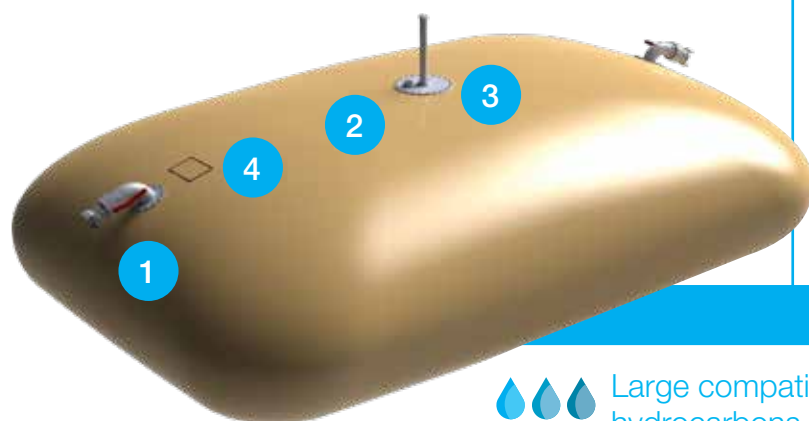
// Hydrocarbon storage

Lift

Store

Plug

Secure



Hydrocarbon storage

From crude oil to Jet A1, PRONAL flexible bladders have been **developed to store hydrocarbons in any condition.**

Made out of a highly resistant material coated with elastomer and hot vulcanized in an autoclave, PRONAL bladders **have been recognized for years by several military organizations, as well as oil & gas companies..**

Advantages



Large compatibility with hydrocarbons



Foldable & movable



Very long service life



Resistant to extreme climatic conditions



No external contaminations



Stored fuel quality

Volume (gallons)	1 300	2 600	6 600	10 500	13 000	26 000	52 000	80 000
Reference	15150	26262	26495	29345	29347	29350	29353	29354
Dimensions (ft)	18x7x2.6	13x13x3.6	20x16x4	22x22x4	25x23x4	37x28x4.5	60x32x4.5	55x48x4.5
Weight (lbs)	120	220	325	440	510	840	1 500	2 000
Packing (inch)	36x36x20	36x36x20	43x43x20	63x48x28	63x48x28	70x50x32	86x50x32	90x50x36

Accessories

	2 x Ø2"	2 x Ø3"	2 x Ø3"	2 x Ø3"	2 x Ø3'	2 x Ø4"	2 x Ø4"	2 x Ø4"
Side inlet / outlet	2 x Ø2"	2 x Ø3"	2 x Ø3"	2 x Ø3"	2 x Ø3'	2 x Ø4"	2 x Ø4"	2 x Ø4"
Man hole	x1	x1	x1	x1	x1	x1	x1	x1
Overpressure vent	x1	x1	x1	x1	x1	x1	x1	x1
Info marking	x1	x1	x1	x1	x1	x1	x1	x1
UV cover	x1	x1	x1	x1	x1	x1	x1	x1
Repair kit	x1	x1	x1	x1	x1	x1	x1	x1

Applications

- Extension of fuel depot
- Set up of fuel depot in remote areas
- Recovery
- Storage during recycling/treatment

Other storage

 Lift

 Store

 Plug

 Secure

Self-supporting Opentank

- Self-supporting circular opentank
- From 1264 gal to 5283 gal
- Top fill system
- Easy & quick to set and to clean



Structural Opentank

- Structural circular opentank
- From 1321 to 31701 gal
- For liquid or solid elements storage
- Ideal for additional storage



Transport tank

- Transport flexible tank
- From 264 to 3170 gal
- For trucks, boats, aircrafts
- Allows dual use of the same vehicle



Rolable & helitransportable flexible tank

- From 52 to 500 gallons
- Remote areas refueling with aircrafts or helicopters
- Can be dropped from more than 33 ft high



Accessories

 Lift

 Store

 Plug

 Secure

WATER AND FUEL logistic



PUMP

- Petroleum products
- Other fluids



RETENTION POOL

- with framework
- inflatable



DISTRIBUTION

- Feeder
- Tap



HOSES

- Suction
- Repression

ADDITIONAL Equipment

UV COVER



PACKING BAG



LEVEL INDICATOR



SET UP INSTRUCTIONS



TO PLUG

PRONAL's all-purpose stoppers can be used in a variety of in-pipe operations :

- waterproof tests,
- sector isolation,
- temporary sealing,
- maintenance or cleaning operation...

➔ **PERFECT**
sealing

➔ High counter pressure
RESISTANCE

➔ **QUICK**
to set up



Vari-Plug // inflatable pipe stopper

 Lift

 Store

 Plug

 Secure

Vari-Plug

Vari-Plug stoppers are designed to plug pipes with diameters ranging from 2" to 48".

With (ORTJ) or without bypass (ORJ), they allow for pipe testing, retaining back pressure up to 30 PSI or more depending on the situation.

Advantages



Robust frame



Rapid installation



Excellent back-pressure resistance



Bypass option



Large chemical compatibility



Perfect sealing

	OD DIA (inch)	MIN SEALING Ø (inch)	MAX SEALING Ø (inch)	LENGTH (inch)	WEIGHT WITHOUT BYPASS (lbs)	INFLATING PRESSURE (PSI)	OPTIONNAL BY-PASS (mm)
ORJ ORJT							
50/70	1.77	1.97	2.76	9.84	1.1	43.5	
70/100	2.56	2.76	2.94	7.84	1.1	43.5	
100/200	3.62	3.74	7.87	13.78	1.98	43.5	
150/300	5.71	5.91	12.2	20.08	5.51	43.5	20 (1"1/2")
200/300	7.28	7.68	12.2	14.96	5.51	43.5	40 (1"1/2)
300/500	11.02	11.61	20.08	22.44	12.13	43.5	40 (1"1/2)
500/800	19.09	19.49	31.89	39.76	37.48	43.5	40 (1"1/2)
840/1200*	32.87	33.07	47.24	58.66	125.66	43.5	65 (1"1/2)
MPS							
100/150	3.62	3.94	5.91	7.48	3.31	58	
130/170	5.12	5.12	6.69	7.48	3.97	58	
150/200	5.59	5.91	7.87	7.48	4.41	58	

* Refer to back-pressure datad / Page 27

Applications

- Waterproof tests
- Cleaning operation
- Temporary and permanent sealing
- Maintenance operation
- Conduct leak tightness test

3D-Plug // High pressure plug

 Lift

 Store

 Plug

 Secure



3D-Plug

3D PLUG stoppers are used to seal pipes of any diameter ranging from 4 inch to 40 inch by using just 3 models.

Because of their durable material, PRONAL inflatable stoppers are suitable for lines of all types.

Advantages



Covers several diameters



Perfect sealing



Rapid installation



Bypass option



Safe handling



Good price-quality ratio

3D	OD STOPPER (inch)	MIN SEALING Ø (inch)	MAX SEALING Ø (inch)	LENGTH (inch)	WEIGHT WITHOUT BYPASS (lbs)	INFLATING PRESSURE (PSI)	Ø BYPASS (inch)
100/250	3.67	3.94	9.84	23.62	3.31	43.5	20 (1/2")
200/500	7.28	7.87	19.69	27.56	8.82	43.5	40 (1"1/2)
500/1000	19.09	19.69	39.37	50.2	35.27	43.5	40 (1"1/2)

* Refer to back-pressure data / Page 27

Applications

- Waterproof tests
- Isolating water networks
- Temporary sealing
- Repair operations
- Cleaning operations






Accessories

 Lift

 Store

 Plug

 Secure

	REF.	DESIGNATION
	67761	"Simplified" controller 1 outlet 1/4"
	67180	Inflation hose, Red 16.4 ft Universal coupler 1/4" + nipple 1/4"
	66902	Inflation hose, Red 32.81 ft Universal coupler 1/4" + nipple 1/4"
	67179	Inflation hose, Blue 16.4 ft Universal coupler 1/4" + nipple 1/4"
	66901	Inflation hose, Blue 32.81 ft Universal coupler 1/4" + nipple 1/4"
	67751	Inflation hose, Yellow 16.4 ft Universal coupler 1/4" + nipple 1/4"
	67750	Inflation hose, Yellow 32.81 ft Universal coupler 1/4" + nipple 1/4"
	67187	Adaptor Claw Universal coupling
	67188	Adaptor "Tête de chat" Universal coupling
	31332	Double bypass Ø 20 for air test for ORJT 100/200 & 3D 100/250
	111731	Double bypass Ø 40 for air test for ORJT 200/300 - 300/500 - 500/800 & 3D 200/500 - 500/1000
	111485	Double bypass Ø 40 for water test for ORJT 200/300 - 300/500 - 500/800 & 3D 200/500 - 500/1000

Back-pressure (vari-plug & 3D Plug)

VARI - PLUG

*Valid values on steel tubes

REF	50	60	70	80	90	100	150	200	250	310	400	510	600	700	810	900	1000	1200
50/70	30.46	29																
70/100			33.36	33.36	27.56													
100/200						26.11	23.21	21.75										
150/300							33.36	30.46	26.11	26.11								
200/300								30.46	27.56	20.30								
300/500										31.91	29	15.95						
500/800												33.36	33.36	27.56	27.56			
840/120																31.91	30.46	18.85

3D PLUG

REF	100	150	200	250	350	400	500	600	700	800	900	1000
100/250	30.46	27.56	23.21	18.85								
200/500			33.36	33.36	33.36	30.46	29	14.50				
500/1000							33.36	33.36	30.46	29	21.75	14.50

Pollu-Plug

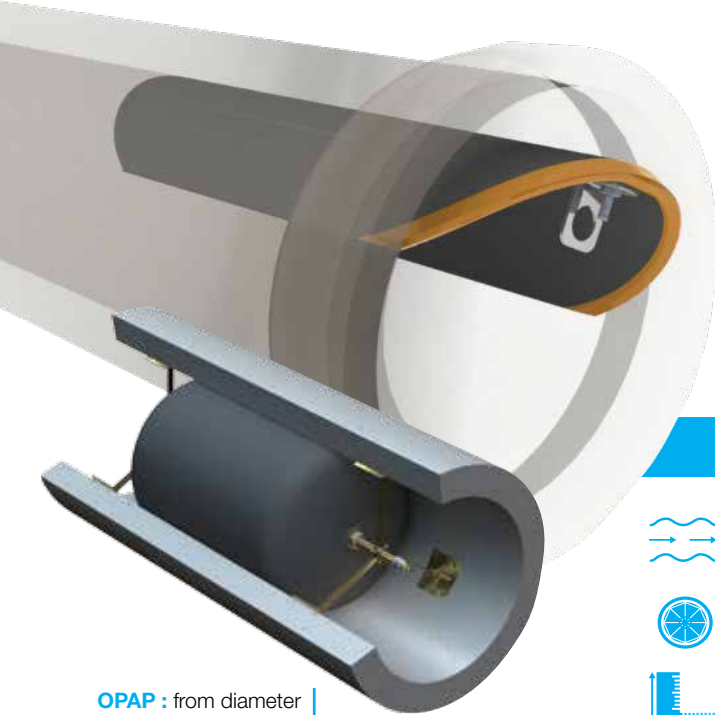
// Antipollution stopper

 Lift

 Store

 Plug

 Secure



OPAP : from diameter
3.94 to 39.37 inch
OFR : from diameter
27.56 to 78.74 inch

Pollu-plug and OFR

The Pollu-Plug Anti-Pollution Stopper was developed in the interest of protecting the environment. Once inflated, **it helps prevent pollution by retaining and stopping toxic or liquid spills.**

Permanently set up in the top of the pipe, they are easy to operate either manually or remotely.

Advantages

 Permanent installation without flow disturbances

 Immediate sealing

 Obstruction when deflated < 5%

 Complete security

 Excellent chemical resistance

 Easy & Rapid installation

OPAP	DIAMETER (inch)	WIDTH-EMPTY (inch)	LENGHT-EMPTY (inch)	WORKING PRESSURE (PSI)	STEM (G)
OPAP 150	5.91	9.06	21.65	17.40	1/4"
OPAP 200	7.87	11.81	21.65	17.40	1/4"
OPAP 250	9.84	14.96	23.62	17.40	1/4"
OPAP 300	11.81	17.72	27.56	17.40	1/4"
OPAP 400	15.75	23.62	31.5	17.40	1/4"
OPAP 500	19.69	29.53	39.37	17.40	1/4"
OPAP 600	23.62	35.43	47.24	14.50	1/4"
OPAP 700	27.53	41.34	55.12	11.60	3/4"
OPAP 800	31.5	47.24	62.99	8.70	3/4"
OPAP 1000	39.37	61.02	80.71	5.80	3/4"

Applications

- Stops toxic or liquid spills in the sewage system
- Blocks water used by firefighters

Pollu-Plug

// Antipollution stopper

Lift

Store

Plug

Secure



Control unit composition

Control unit

OPAP control unit are plug & play solutions to facilitate installation on site.

Their composition allows the operator to trigger several stoppers simultaneously thanks to remoted and automatic systems.

Advantages



Autonomous system



Easy to use



Custom composition



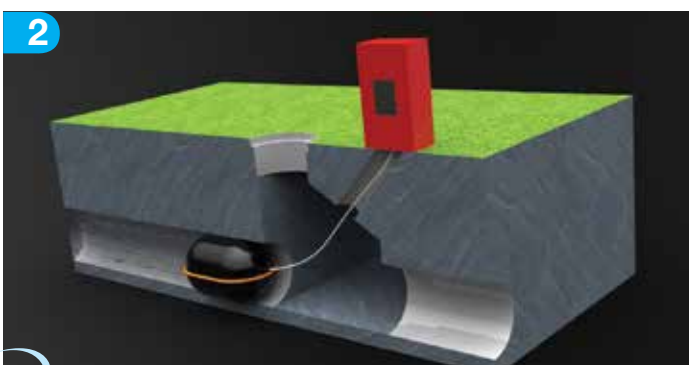
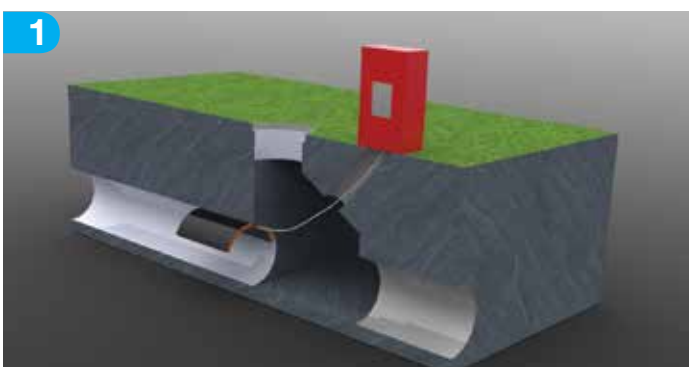
Different trigger options

SYSTEM OUTBREAK

- MANUAL :
- PUNCH OUTBREAK SYSTEM
- WIRED TELECONTROL
- MOBILE TELECONTROL

Picture 1 : Deflated stopper. It can be activated at any time. No outflow disturbances.

Picture 2 : Inflated stopper. Immediate plugging of the pipe. Once deflated, the stopper returns to its start position.



Other plugs

 Lift

 Store

 Plug

 Secure

OPV

- Up to diameter **87 inch**
- Up to **43 PSI back-pressure**
- **all kinds of pipes** (concrete, HDPE, steel...)



OHP

- Up to diameter **98 inch**
- Up to **363 PSI and more back-pressure**
- For pipes under high pressure



OTR

- **For manhole tests**
- Up to diameter **40 inch**
- Up to **1.45 PSI of back-pressure**



Contact us for higher back-pressure, different diameter or other particularity.
(resistance, chemical compatibility, accessories...)

TO SECURE



Whether its human or environmental protection, PRONAL has developed solutions dedicated to :

- flood and pollution containment (land and sea barriers),
- optimizing security for operators (pneumatic protection shield).

➔ **Human**
PROTECTION

➔ **Pollution**
PREVENTION

➔ **Environmental**
CARE

Smartshore

// Inflatable trench shield

 Lift

 Store

 Plug

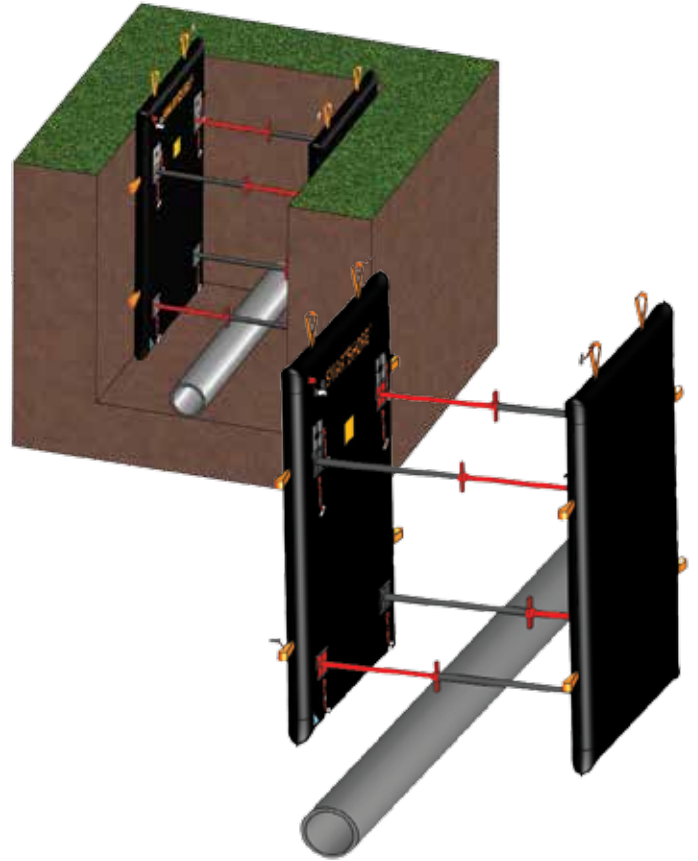
 Secure

Smartshore

When working in excavation sites, keeping workers safe is the top priority. SMARTSHORE is an inflatable trench shield developed by PRONAL as an alternative to more traditional and cumbersome shield options.

By this new technology, your workers will be able to quickly and easily secure a safe working area.

Once inflated and supported by struts, these shields reinforce trench walls and excavation sites of up to 8 feet deep, thus avoiding any risk of cave ins.



Advantage : the Smartshore concept

- **EASY TO TRANSPORT**

Foldable and lightweight (no vehicle required)

- **ROBUSTNESS**

Special double vulcanized fabric

- **MODULARITY**

Feets to different configurations

- **SAFETY**

Allow workers to escape the trench safely

- **QUICK TO INSTALL**

Only requires 20 minutes to set up without any lifting equipment





Lift



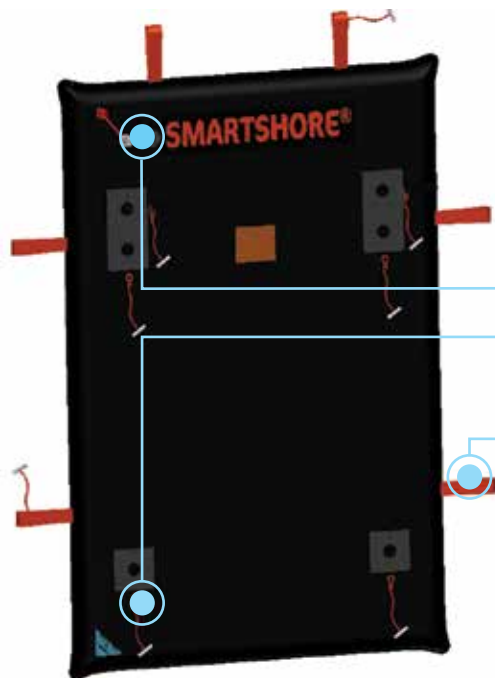
Store



Plug



Secure



SMARTSHORE KITS

Kit 2 or 4 inflatable cushions equipped with :

- 1 self-sealing quick coupling
- 1 safety valve
- 6 handling straps
- 6 strut pockets
- 8 bungee cords



PART NO.	FLAT DIMENSIONS (inch)	INFLATED DIMENSIONS (inch)	SIZE WHEN ROLLED (inch)	WEIGHT (lbs)	THRUST RESISTANCE (PSF)	AIR VOLUME (Cu.ft)	INFLATING PRESSURE (psi)
113506	87 x 57	85 x 55 x 5	8	29	250	14	12 - 14
115463	105 x 59	102 x 57 x 5	12	34	300	17	12 - 14

ACCESSORIES FOR KIT OF 2 / 4 CUSHIONS



Accessories

Struts

(3 sizes available)

- 23" - 35"
- 32" - 43"
- 43" - 55"

2 cushions kit

x 4

4 cushions kit

x 8



Inflation line

x 1

x 1



"Venturi" ejector for a quick cushion deflation

x 1

x 1

Protec flood - BAPG

// Barrier

 Lift

 Store

 Plug

 Secure



Protec flood

- Protect buildings from flooding
- Protection from major oil spill
- Contains chemical pollutants
- Temporary protection during construction and ditch cleaning

BARRIER	DIAM. (inch)	WATER RETENTION HEIGHT (inch)	LENGHT (feet)	CONNECT.
MONO-TUBE BARRIER	29.53	25.59	32.81 or 65.62	DN 50 (2")
BI-TUBE BARRIER	29.53	25.69	32.81 or 65.62	
TRI-TUBE BARRIER	29.53	51.18	32.81 or 65.62	

Other sizes on request

Advantages



Easy to handle
unloaded when
empty



Immediate sealing



Self-supporting
system



Easy & rapid to
install

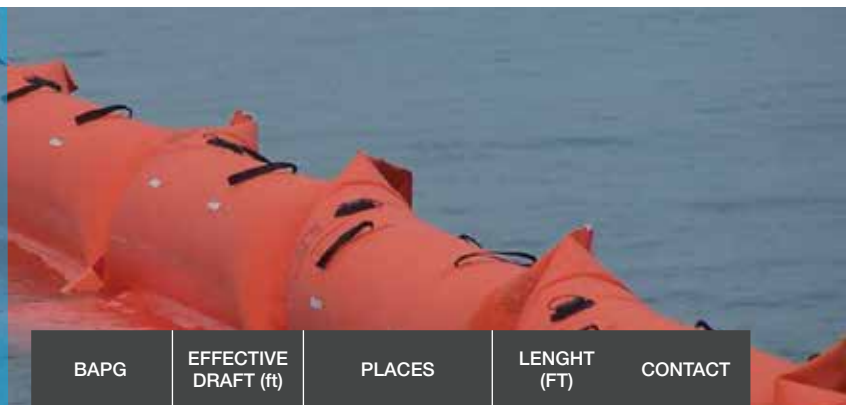


Easy configured for
different conditions

BAPG

Made of elastomer or plastomer coated fabrics

- Inflatable cylindrical float (L. 33,46 ft)
- Vertical skirt ballasted with galvanized chain
- Mooring handles, marks
- Wide range of models



Advantages



High resistance to traction



Easy and rapid cleaning



High resistance to wind and swell

BAPG	EFFECTIVE DRAFT (ft)	PLACES	LENGHT (FT)	CONTACT
BAPG 150	984.25	Calm water	32.81	ART SF1 ou MonSun XII
BAPG 250	1246.72	River	32.81	
BAPG 350	1476.38	Harbor	32.81	
BAPG 470	2296.59	Off shore	32.81	
BAPG 620	3149.61	Deep sea	32.81	
BAPG 885	2608.27	High deep sea	32.81	

Other sizes on request

Balear - Fence

// Antipollution barrier



 Lift

 Store

 Plug

 Secure

Balear

- Divert spills from spreading bodies of water
- Contain pollution
- Protect the environment during boat dismantling



Advantages



Self floating system
Keeps 75% flotability even with pierced pockets



High resistance to wind and swell



High resistance to traction



Very quick launching (3.28 from 6.56 ft per sec)

BALEAR	EFFECTIVE DRAFT (ft)	PLACES	LENGHT
BALEAR 410	0.92	Calm ports, Lakes	32.81, 82.02 or 164.04 ft
BALEAR 312	1.15	Ports river, coves	
BALEAR 323	1.74	Coastal zones and open	
BALEAR 333	2.46	All coastal areas	

Other sizes on request

Fence

- Longitudinal flexibility due to multiple foam cells
- Easy to deploy and quick setting up
- Possibility to store on reel
- Used for sweeping and pollution containment

FENCE	EFFECTIVE DRAFT (ft)	TOTAL WEIGHT PER METER (lbs)	LENGHT
FENCE 440	0.95	11.02	32.81, 82.02 or 164.04 ft
FENCE 640	1.31	11.02	
FENCE 750	1.64	11.02	
FENCE 1250	2.46	23.15	

Other sizes on request

Advantages



High resistance to traction



Easy and rapid cleaning



High resistance to wind and swell

North America



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