

**Sports and Recreational Equipment and Supplies and Accessories UNSPSC : 49000000**

**Watersports Equipment UNSPSC:49140000**

**Scuba and Snorkeling Gear UNSPSC: 49141500**

**Personal Diving Kit (SCUBA) or Diving Instruments UNSPSC: 49141504 - 01**

S No	Parameters	Value 1	Value 2	Value 3	Value 4	value 5	value 6	Unit	Remarks
<b>GENERIC</b>									
1	Scope	Self Contained under Water Breathing Apparatus (SCUBA) set containing Dry Suit,Swimmer Knife,Weight Belts with Weight , Dive Fins, Diver Body harness for connecting life line(with life line Carabineer) , Breathing appratus with compressed air cylinder and Communication Set to be used to conduct under-water search and rescue operation. The Complete set of the equipment should enable divers to conduct operation in cold or contaminated water.							G
2	Application	The apparatus should be rugged, light weight and suitable for single person use.							M
3	Maximum operating depth	≥ 55 meter							MTBD
<b>CONSTRUCTION</b>									
<b>1 Dry Suit</b>									
1	Dry Suit should consist of (a)Full Body Suit(Main Suit),(b)Boots (Attached) (c)Hood (Detachable) (d)Inner Suit for Thermal Protection (e) Connector for Inflator Hose (f)Dry Shocks (g)Dry Gloves	yes							
2	Available size for Dry suit	S	M	L	XL	XXL	any size		F
3	Suit Material	Neoprene	Tri Laminate	Latex	Combination of				F
4	Water Proof Suit including seams and Zipper	yes							M
5	Weight of suit including hood boot and under suit	≤10						Kg	MTBD
6	Under Suit	With full sleeves and full length leggings							M
7	Colour of suit	Orange	Black						F
8	Thickness of main body suit	3≤N≤6						mm	TBD
9	Water Tight material for Neck	Latex	Neoprene						F
10	Water Tight material for collar	Latex	Neoprene						F
11	Water Tight material for Wrist seal	Latex	Neoprene						F
12	Pockets	Expandable utility pocket with easy accessibility							M
13	Capability to inflate and deflate through automatic adjusting valves with change in depth to avoid squeeze on descend	yes							M
14	Valve Compatibility	Compatible with existing face mask as well as with full mask provided with the SCUBA set							M
15	Boot should be rugged in touch and feel	yes							M
16	Comfort	Easy to wear and provide enhance flexibility in upper body portions							M

17	Suitable connectors for inflator hose to be supplied along with the product	yes							M
18	Additional strengthening or Padding on high wear areas for additional strength	yes							M
<b>1A/1B DRY Gloves &amp; Socks</b>									
1	Thickness of Gloves minimum	2 to 3mm	5to 6 mm	3 to 6 mm				mm	F
2	Depth of water for which gloves are suitable	up to 55 meter						meter	M
3	Material for gloves	made of same material of which diving suit is made							M
4	Material for Palm	Anti slip type polyurethane							M
5	Entirely non magnetic Gloves	yes							M
6	Easy wear and comfort	The Diver should be able to wear the suit very easily and feel comfortable							M
7	Gloves Material	Neoprene							M
8	Dry Socks	should be in conjunction of dry / wet suit, made of same material,non slippery sole ,which reduces wear and prevents slipping on wet or slippery surface.							M
<b>2 Swimmer safety Knife</b>									
1	Swimmer safety Knife	Swimmer safety knife should be able to cut obstruction, rope, Net etc underwater							G
2	Shape of the Blade	Razor sharp smooth cutting edge on one side with considerable "belly" or curve and should include a sharp line cutter hook for cutting fishing lines and leaders. The backbone of the blade to have a heavy serrated edge (Wavy or rounded serrations) running nearly full length of one side							M
3	Swimmer safety knife blade length	17 mm to 20 mm							M
4	Knife Tip	Pointed						M	
5	Knife Handle Length	The size of the handle should be about 110-120 mm in length, with reasonable width so that a diver can hold the knife comfortably in water.						M	
6	Knife Handle Material	marine proof-Thermo rubber material externally and rubber/polypropylene internally with non-skid surface. There should be an effective guard / ridge / thumb rest between the handle and the blade to prevent fingers from slipping onto the sharp edge.						M	
7	KNIFE HANDLE COLOR	Black						M	
8	One lanyard hole at the top end of the handle with a brass metal eye (rounded edges) to secure the knife	yes							M
9	Approximate Weight of Knife	300						gram	M
10	Overall length of Knife	≥20						cm	M
<b>3 Weight Belts with weight</b>									

1	Weight Belts with weight to attach weight to divers to adjust buoyancy during diving operation	YES				G	
2	Mass of Lead weight	One set of 1 kg & 2 Kg (4 nos each) t			Kg	M	
3	Waist Belt	yes				M	
4	Length of waist Belt	Adjustable from 30 " to 45 "			inch	M	
5	Thickness of waist Belt				3	mm	M
6	Width of waist Belt				50	mm	M
7	Waist Belt Material	Polypropylene	Nylone Febric			F	
8	Waist Belt Buckle material	Fibre or non corrosive soft material				M	
9	Color of Waist Belt	Black				M	
10	Pockets for weight in waist belt	4 nos Pockets made of similar material with pocket flap with Velcro / Quick Fix Button to close pocket to accommodate 4 nos lead weight of 1 & 2 kg each				M	
<b>4 DIVE FINs</b>							
1	Dive Fins or Fins Swim Role	Assist Diver in hands free swimming on surface and under water.				M	
2	Application	A rugged fin featuring an big foot pocket to accommodate boots and a spring strap for easy donning and doffing. The design should be standard gear issue fin for military, special ops, coast guard and public safety divers				M	
3	Length of Fin minimum	17 inch			inch	M	
4	Width of Fin at Toe minimum				4 inch	inch	M
5	Width of Fin at Bottom minimum				8.8 inch	inch	M
6	Material used for construction	Thermoplastic Rubber	Natural Rubber			M	
7	Skid free on wet metal deck	yes				M	
8	Hydrodynamic shape to facilitate maximum propulsion while swimming in water using flutter and frog kick	yes				M	
9	Hydrodynamic shape suitable for swimming for long duration with out causing undue fatigue	yes				M	
10	Shoe Pocket	7 to 8 inch deep with adjustable back strap of 1.5 inch width minimum				M	
11	Inner Part of shoe Pocket	made of soft rubber for use with bare feet				M	
12	Aditional Back strap	1 no			No	M	
13	Buoyancy	approximately 10% negatively buoyant				M	

14	weight of Dive Fins	≤1.5 kg					M
<b>5 Diver Body Harness</b>							
1	Diver Body Harness with Life Line Harness	Belt type harness attached with non corrosive metal Buckel. Belt should be provided webbing strap style which should be going over the shoulder of the diver. At the top of the shoulder a loop to be provided for attaching life line. The width of strap- 2 ", Material of strap- Poly Propelene					M
2	Life Line	made with 8mm Poly Propelene Rope					M
3	Length of life Line	≥100 meter				meter	M
4	visible yellow mark on every 3 meter of life line	yes					M
5	visible Red mark on every 15 meter of life line	Yes					M
6	stainless steel carabineer for attachment at both end of rope	yes					M
7	Harness on which the cylinder is mounted ,to enable divers donning the compress air cylinder	yes					M
<b>6 Breathing appratus with compressed air cylinder</b>							
A	<b>6A Cylinder</b>						
1	Breathing appratus with compressed air cylinder	yes					M
2	Cylinder Pack	Pack of 2 cylinders (1 main and 1 reserve)					M
3	Cylinder capacity	8	10	12		ltr	M
4	Cylinder material	Aluminum alloy		Stainless steel		Carbon Composite fiber	G
5	Air /oxygen storage Capacity	≥2400				ltr	G
6	Weight Of empty Cylinder	≤ 15 kg				Kg	M
7	Operating Pressure	200≤N≤ 300				bar	M
8	Reserve air capacity	Reserve air should be enough to diver for breathing more than 15 minutes					M
9	Operating Temperature	Suitable in all temperatures including those below 10 C / 50 F and is environmentally sealed					M
10	Cylinder Certification	Certified by Indian Explosives Department or PESO Nagpur					M
B	<b>6B Full Face Mask with breathing Demand Valve</b>						
1	Full Face Mask Application	Designed for underwater utilization for emergency, commercial & technical uses.					M

2	Comfort & weight	Comfortable to wear and weight less than 900 gram		M
3	Mask Vision	Wide view vision visor and shape suitable for use of Spavvtacles for the wearer		M
4	Visor Material	made of scratch & impact resistant transparent polycarbonate with wide visual field.		M
5	Head Harness Straps	6 nos, all directly attached to the face to the face shield in the design that allows the pressure to be transmitted uniformly along the Mask's Skirt.		M
6	Air circulation in the mask will minimize fogging of the Lens and reduce the amount of CO and CO2 buildup in the inhaled air	yes		M
7	Mask will be equiped with a surface valve allowing the Diver to breath fresh air when on surface and save precious air	yes		M
8	Face mask also have provision for comminication system (DUCS or WUCS) or Video Camera or Torch when Required	yes		M
9	The Face Mask will be supplied complete with an Integrated second stage Regulator(demand valve) and can be connected to the 1st stage regulator via a breather hose	yes		M
10	Certification of Face Mask	Certified to EN 250		M
<b>C</b>				
<b>6C Regulator Unit</b>				
1	Regulator Unit along with a cosole for pressure gauge (0-350bar) and depthgauge (0-80meter)	A pressure compensated regulator unit with first stage regulator to convertcylinder high pressure to low pressure having two high pressure port and 4 low pressure ports,		M
<b>D</b>				
<b>6D Buoyancy compensating device</b>				
1	BCD BUOYANCY COMPENSATOR JACKET WITH BACKPACK	The BCD Harness Structure will be comfortable to wear and have provision for mounting the cylinder and other accessories on the set.		M
2	BCD will come with adjustable straps so as to make fit and ensure free movement to the diver.	yes		M
3	BCD should be fitted with inflation option through main cylinder or mouth piece, deflation through 3 rapid dumping valves including 2 over-pressure valves	yes		M
4	Pockets / recess for detachable weight in BCD	Available		M
5	5 nos stainless steel D-rings for attaching accessories on BCD	yes		M
6	Single Blader material	outside Cordura 1000 /inside nylon 420D		M
7	Certification for BCD	CE Certified to standard EN1809		
<b>E</b>				
<b>6E Octopus</b>				
1	Octopus	An additional second stage with hose for use in emergency in case air supply to face mask fails or for use by the buddy diver. It will connect to the 1st stage.		M

2	In case diver does not want to use full face mask then the breathing valve with mouthpiece should be enough for the use under water	yes		M
3	Mouthpiece should have separate inhale and exhale channels so that the moisture from the diver can not get deposited in the inlet section of the breathing valve to avoid risk of valve	yes		M
4	additional half face mask should be provided with the equipment	yes		M
<b>7 Under Water Communication System (Hard Wire Type)</b>				
1	Under Water Communication System (Hard Wire Type)	Equipment should be rugged ,light weight suitable for carrying single person and reliable for hard wire communication during diving operations between diver and surface team.		M
2	Operating Time for Under Water Communication System (Hard Wire Type)	suitable to continuous use for more than 5 hours		M
3	Allow clear voice communication between surface supervisor and minimum 4 diver should be able to talk among themselves	yes		M
4	Volume control and Squelch facility in surface panel	yes		M
5	Wire less communication	wireless communication with a minimum range of 400 meter		M
6	Power supply	Battery operated with an endurance of 5 hours before recharge is needed		M
7	Fully portable Surface unit should have a head set microphone and mike for supervisor	yes		M
8	Equipment range in water	Equipment should work upto the range of 30 meter under water		M
9	weight of diver unit for Under Water Communication Set (+0,-10%)	between 900 gm to 1000 gram	gram	M
10	Diver unit pressure compensation	10 meter +10%	meter	M
11	weight of surface pannel	6 kg +10%	kg	M
12	Supervisor head Set	Should permit hands free of and panel the head set on the diving site and permit free movement in a radius of at least 1 meter on the diving site		M
13	Surface Headset and Microphones	1 no each	no	M
14	Portable Surface unit with Transducer and Cable	1 no	No	M
15	Diver Receiver and Microphones	4 nos	No	M
16	carrying case Material	made of light weight High Strength Polypropylene copolymer Resin		M
17	IP Rating for water and Dust	IP 67		M
18	Corrosion and impact Resistant case with quick closing and release latch system	yes		M

19	Cushion comfort Carrying handle for easy handling	yes		M
20	Box should be filled with cubed foam / customized foam for coshion and with locking facility	yes		M
21	The case shouls be automatic ambient pressure equalization valve latches,handles and wheels should be field replaceable	yes		M
22	Operational and technical Manual for communication set	yes		M

**CERTIFICATION**

1	Availability of Type Test Report to prove conformity of parameters to the specification from any ILAC/NABL accredited /Central Govt Lab for complete Personnal diving kit	Yes							M
2	Any other certification for complete equipment from EN/UL/FM/CE for complete diving Kit								TBD
2	Test Report Number								M
3	Test Report Date								M
4	Name of the Lab where test Conducted								M
5	Test Reports to be furnished to the buyer on demand	Yes							M
6	Warranty Period	2	3	5				year	G
7	Service warranty at consignee end	5	10					year	G