Spend little to SAVE more



GIPL Range of compressed air saving products













GENERAL IMSUBS, PRODUCTS READY RECKONER

COMPRESSED AIR SAVING BLOW OFF PRODUCTS

eX Blow Gun EBG-1



- High volume blow gun
- Ergonomically designed
- 7 times air amplification
- Strong, unbreakable & maintenance free
- Light weight

Air amplification 12 times

- Great air and energy saver.
- Machine mountable
- Meets international safety norms.
- Available in Aluminum and stainless steel

RBA-2 & RBS-3 Real blow nozzle



Real blow High thrust jet HTB-4

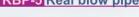


- Air amplification 3 times
- Lower noise level.
- High thrust.
- Meets international safety norms.
- Rugged Stainless steel construction.

Air amplification 12 times

- Deep penetration.
- Versatile machine mountable or blow gun mountable.
- Meets international safety norms.

RBP-5 Real blow pipe



COMPRESSED AIR OPERATED HOUSE KEEPING PRODUCTS

Vac Blow gun VBG-14



- Two in one vacuum cum blow gun.
- Strong unbreakable.
- Low cost, zero maintenance.
- Washable dust collection bag.
- Wide application for cleaning and collection.

Multipurpose material collection cum cleaning system.

- Wet and dry capability.
- Large drum type collector.
- Washable filter and useful standard accessories.
- Meets most industrial housekeeping requirements.

RVC-15 Real Vac



AIR AMPLIFYING PRODUCTS



General imsubs unique blow-off products to enhance compressed air utilization

Sr. No.	Description	Model number	Page
1.	eX Blow Gun, for wider blow. Amplification Ratio 1:7 With plastic extension tube as standard accessory.	EBG-1	2
2.	Real Blow Nozzle, Adjustable flow, Aluminum, Amplification ratio 1:12	RBA-2	4
3.	Real Blow Nozzle, Adjustable flow, SS, Amplification ratio 1:12	RBS-3	4
4.	Real Blow Pipe , Amplification ratio 1:12, High penetration	RBP-5	5
5.	Real Blow High Thrust Nozzle, Amplification ratio 1:3	HTB-4	6
6.	Vac Blow, dhc, unique deep blind hole cleaning gun with chip collection bag. Must for tool rooms & Machine shops, Suitable for 6 to 30 mm dia X upto 300 mm deep blind holes.	DHC-12	7
7.	Triggered Blow gun	TBG-6	
8.	Pistol Shaped ergonomic blow gun, to adopt all types of Real blow nozzles and jets	PSH-7	
9.	Metal extension tube for all nozzles, 225 / 450 mm Long, Increases reach of nozzles in difficult to reach area.	EXM-9	
10.	Plastic Extension tube suitable for Ex-blow gun	EXP-10	
11.	Difference between Real blow nozzle, pipe and jets		9
12.	Useful Compressed air data and work sheet to calculate air saving		10
13.	Vac In Line, Portable conveying and cooling tool	Vac In Line	13
14.	Cable and tube wiper for contactless wipe drying of cables and tubes	CWR-16	13
15.	Vac Blow Gun, Unique 2 in 1 vacuum cum blow gun with dust collection bab	VBG-14	14
16.	Real Vac, Multipurpose wet and dry material collection system	RVC-15	15
17.	Maintenance free compressed air operated barrel filling and emptying system	RAPFLOW-17	15
18.	Compressed air operated coolant mist spray nozzle, Adjustable mist control.	SPS-13	16
19.	Water flow control solenoid valve for mist spray nozzle. 12V DC / 24 V DC / 230 V AC	SVW-11	
20.	Bottle and collapsible tube cleaning system		17
21.	List of valued customer		18





Blow Off Products

Blow off products can be classified in three categories.

- ✓ Conventional blow off methods like home made pipe nozzles, Open pipes.
- ✓ Conventional blow guns with trigger
- ✓ Air amplifying products offered by General Imsubs.

General Imsubs blow off products can be fitted on conventional blow guns of suitable type

or

they can be supplied with

low cost triggered blow guns

ergonomic blow guns

shut off valves or slide valves.

Blow off products can be further classified as

- 1. Medium thrust wide blow (EBG-1)
- 2. Low thrust narrow blow (RBA-2, RBS-3, RBP-5)
- 3. High thrust narrow blow (HTB-4)
- 4. Special purpose blow off devices like Vac-Blow dhc (DHC-12), Vac In Line, Linear Air curtains.

AIR AMPLIFYING PRODUCTS



Real Blow Nozzles, Pipes and High Thrust Jets

While talking of advantages of an Ex-blow gun, one small thing is to be kept in mind that is its low penetrating wide blow. It may face trouble cleaning stubborn dirt particles from "difficult to clean" areas like narrow corners or deep grooves.

Ex-blow gun is good where low penetrating wider blow of air is required.

-So what about high penetration?

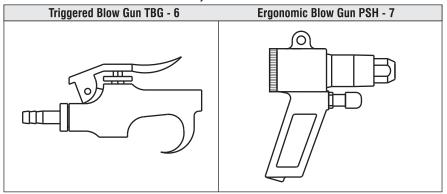
For high penetration we recommend our family of Real Blow nozzles and jets.

Real Blow Adjustable Nozzle Model # RBA -2 & RBS - 3



Conclusion: Real Blow adjustable nozzles can be a smart choice where narrow and adjustable flow of air is required

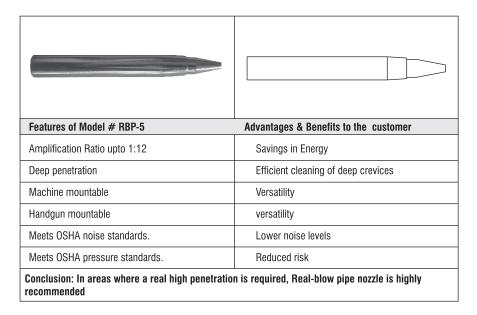
Accessories for Real Blow Adjustable Nozzle Model # RBA -2 & RBS



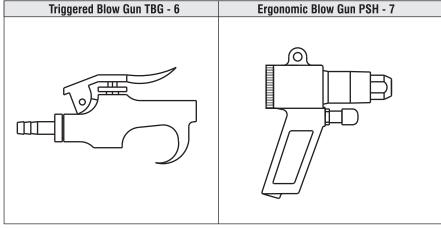
IV	letal extension tube, 225 /450 mm Long, Increases reach Model # EXM - 9	
		\exists



Real Blow Pipe Nozzle Model # RBP 5



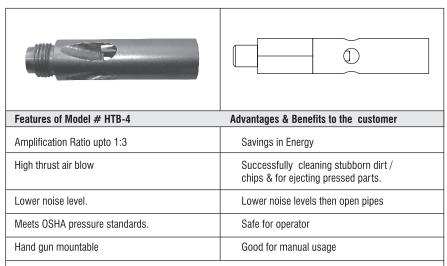
Accessories for Real Blow Nozzle Model # RBP -5



Metal extension tube, 450 mm Long, Increases reach Model # EXM - 9	

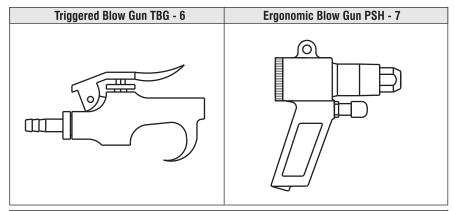


Real Blow High Thrust Jet Model # HTB - 4



Conclusion: Sacrificing air saving part, BUT it gives really high thrust for cleaning or pushing something. Again not compromising with safety be it noise or flying off chips. High thrust jet is an an excellently effective tool for high thrust air blowing

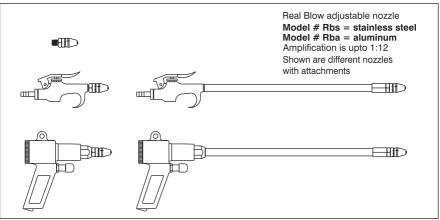
Accessories for Real Blow Jet Model # HTB -4

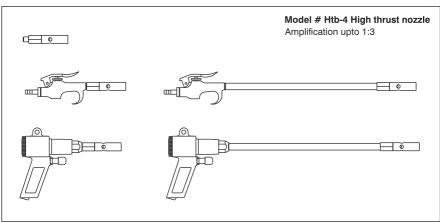


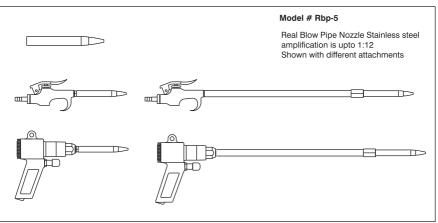
Me	etal extension tube, 225 / 450 mm Long, Increases reach Model # EXM -	9
		_

AIR AMPLIFYING PRODUCTS









AIR AMPLIFYING PRODUCTS



What is the difference between Real Blow Nozzle, Pipe and Jet?

Though all Real Blow Products works on same Coanda principle each products has distinctive features and makes it suitable for wide range of application. User may choose the best product according to the requirement of work space.

Feature	Real Blow Nozzle	Real Blow Pipe	Real Blow Jet	Remarks
Construction material	Aluminum / SS	SS	SS	Aluminum is economical choice for less harsh environment. Where as SS is ideal for high temperature, corrosive and food processing industry.
Flow Adjustment	Yes	No	No	Adjustable flow is useful feature where compressed air line pressure could not be varied, still air blow needed is softer.
Air Amplification	Upto 12 times	Upto 12 times	Upto 3 times	Higher amplification could save considerable amount of expensive compressed air especially when blow off operation does not require deep penetration.
Thrust	Adjustable	Medium	High	User can choose nozzle or jet depending upon thrust requirement to ensure maximum saving.
Penetration	Low	Medium	High	
Noise	Low to Medium	Low	High	Lower noise offers fatigue free work environment for operator
Meets OSHA safety standards	Yes	Yes	Yes	Because dead end pressure of all General Imsubs blow off product is less than 2 bar (30 PSI), work area becomes safer than ever before.
Machine Mountable	Yes	Yes	Yes	
Compressed air saving	Very High	High	Low	Compressed air consumption could be reduced by as much as 80% by selecting right blow off device.
Outlet can be ducted	No	No	Yes	
Can be used with existing blow guns	Yes	Yes	Yes	To start saving compressed air just replace nozzle of existing blow guns with Real Blow nozzles or jets.



Useful Compressed Air Data

How to calculate compressed air consumption and savings:

Designing Air Amplifier based blow off operations:

Though it is known fact that Air Amplifier based blow off products can pay back its cost in few weeks, plant wide conversion still require little planning and study in order to achieve maximum savings and over come operator reluctance.

Following steps helps to determine methodology of conversion of conventional blow off product to Air Amplifier based blow off products.

- ✓ Make complete survey of all blow off jets or locations where air is blown.
- ✓ Calculate air consumption per outlet.
- Grouping of blow off points as per size of orifice used will help to determine right air amplifying product for particular usage point.
- ✓ Select pilot points to be replaced by air amplifier based blow off products.
- If any outlet is using pure compressed air for drying or cooling purpose, installing General Imsubs air amplifying product will start saving compressed air immediately.
- Compare compressed air consumption of pilot points before and after installation of Air amplifying blow off products.
- Based on percentage of pilot points selected, plant wide calculation of compressed air could be calculated very easily.

How does Air Amplifier based products justify its payback?

- ✓ Compressed air cost largely depends on cost of electricity and it may vary from state to state. But if you have never calculated cost of compressed air before, compressed air cost between 1.00 to 1.25 paise per Cu. Feet would be safe. (Rs. 1.00 to 1.25 per 100 Cu. Ft.)
- Multiply saving of compressed air in CFM with total minutes plant operates in a year. That is savings in compressed air.
- Deduct cost of filters, pressure regulators and cost of change in piping and layout from the savings of compressed air. Please take this figure in calculation only if you have installed any of these to convert your existing systems.
- ✓ You will realize that savings of compressed air is so much that adding new compressor may not be required for additional capacity expansion. <u>Savings in</u> capital cost would be visible only when you plan capacity expansion.
- Operating cost of air compressors comprises of Fixed charges and repairs (25%) and electric power charges (75%).



Compressed air out put through orifice.

Pressure	Pressure	Orifice Diameter mm						
Kg/Sq. CM	PSI	Compressed air consumption in Cu. Ft per Minute						
		3	5	6	9	10	12	
3.10	44.95	12.01	33.36	48.04	108.09	133.45	192.17	
5.52	80.04	19.12	53.12	76.50	172.12	212.50	306.00	
6.21	90.05	21.12	58.68	84.50	190.12	234.72	337.99	
6.90	100.05	23.17	64.37	92.69	208.56	257.48	370.77	
8.27	119.92	27.20	75.56	108.80	244.80	302.23	435.20	

Compressed Air Savings by various tricks and tips:

✓ Pressure plays a vital role in conservation of compressed air.

Example: If maximum pressure required by power tool or process is 6 bar. However due to inadequate line size, if plant is maintaining pressure higher than 6 bar means compressor works for longer for the same amount of compressed air. Also points from which air is blown gets air at higher pressure resulting in wastage of compressed air.

- Usually low pressure in line is due to inadequate size of pipe and hoses, leakage in air lines and insufficient compressor capacity. Organization must pay attention to these factors before increasing air generation pressure or installing new compressor.
- ✓ Improper piping lay out requires more bends and joints. Each joint has adverse effect on line pressure. Hence properly designed piping greatly reduce pressure drops.
- ✓ If flexible tube feeds any tool or process than choosing right size of hose reduces excessive pressure drop.
- All air blow point if provided with trigger type blow guns than compressed air saving could be as high as 60% because trigger type blow guns shut off immediately, else compressed air will flow freely for few seconds before operator shuts valve off.
- Air leakage has a very high hidden cost on operation. Leakage equivalent to 0.8 mm diameter could waste 46000 Cu. Ft. of compressed air per month at 6.5 bar pressure. Means Rs. 600 per month. And if leakage is equivalent to 1.6 mm, 3.2 mm and 6.35 mm diameter than wastage of compressed air will be 182000CFM, 729000CFM and 2920000 CFM respectively per month. If translated in Rupees it will be Rs. 2275, Rs. 9110 and Rs. 36500 per month.
- √ Replace leaky shut off valve immediately.
- ✓ Using good quality hoses and hose clamps can prevent expensive leakage due to cracks.

General imsubs AIR AMPLIFYING PRODUCTS



Work Sheet For Compressed Air Saving Achieved

Existing Blow off v/s Air Amplifier Based Blow Off Upgrading.

1	2	3	4	5	6	7	8	9	10	11
Machine & location	Blow off type, size & number	Pressure	Duty Cycle	Air Usage CFM Before	Cost of air per hour	Type of air amplifier type nozzle	Pressure	Duty cycle	Air usage CFM After	Cost of air per hour
Total	Before C	onversio	n (A)			Total After Conversion (B)				

Total Savings PA in Rs. = <u>Net Air Saving CFM X 60 (Hour) X Total Working</u> hr PA X Cost of Air (about 1.25 paise per CFM)						
	100					
Pay Back Period :	Total Amount invested in Conversion	X 365				
days	Savings in cost of compressed Air per	X 303				
year						

AIR AMPLIFYING PRODUCTS



Cooling, Ventilating and vacuuming products

Compressed air is very widely used for cooling, extracting fumes and dust and also as a part of machine where air is required to blow for ejecting parts, drying, blowing off of dust etc. In such cases air amplifier based products could save huge amount of compressed air.

Examples:

- Bottle drying prior to code printing in bottling line.
- Cleaning of beverages cans and tins.
- Blowing off of sand from treated steel in cold rolling mill.
- Cleaning of part on conveyor prior to painting.
- Parts blowing in a drawing press.
- Blowing of air in rotational molds.
- Extraction of fumes of welding.
- Cooling of aluminum / alloy die cast components and parts.

Vac In Line



Features:

- Air Amplification ratio upto 12.
- Available in throat size from 20 mm to 150 mm.
- Easy to install, zero maintenance.
- Compact design, Safe.
- Outlet can be ducted.
- Available in SS and Aluminum construction.

Applications

- Cleaning by blowing especially where blowing system needs to be stationary and should have wider area blow.
- Wide area blowing where deep penetration is not required.
- Cooling, drying of parts, bottles.
- Cooling of crucible and molds.
- Foundry and furnaces.

Cable Wiper and Drier

Real Wipe is cable wiper and drier installed on extruders to get spotless pipes and cables, Since water is wiped immediately. This air amplifying wipers consumes little compressed air, hence saves cost.

Real Wipe : CWR-16



Features:

- Air Amplifying
- Available in various sizes.
- Easy to install, zero maintenance.
- Available in SS and Aluminum construction.
- Used for cooling and wiping.
- Uniform air flow

Applications

- Cable and tube drying
- · Cooling of extrusions, tubes and profiles.



Housekeeping Products

General Imsubs, compressed air housekeeping products are ideal solution for almost all industrial housekeeping needs. They are maintenance free, ergonomically designed, tough, durable and light weight.

Vac Blow Gun: VBG-14



Compressed Air Consumption @ 5.5 bar 20 CFM

Features:

- Reversible vacuum cum High volume blow gun.
- Ergonomically designed.
- 7 times air amplification in blow mode.
- Strong, unbreakable and maintenance free.
- Safe.
- Outlet can be ducted.
- Washable dust collection bag.

Applications:

- Powder coating and paint shop
- Pharmaceutical Formulations
- Bulk drug
- Plastic processing
- Textile mills
- Tool rooms
- Machine shops
- Automobile Service stations
- Foundries
- Railways
- Ship building
- Aerospace







Compressed Air Consumption @ 5.5 bar 24 CFM

Features:

- Multipurpose material collection cum cleaning system.
- Wet and dry collection capability.
- Large corrosion resistant drum type collector.
- Washable filter and useful standard accessories to meet most industrial hose keeping needs.

Applications:

- General Industrial housekeeping.
- Collection of powder, dust, fumes, chips, saw dust, small parts from machine.
- Liquid spill pick up.
- Machine beds and surrounding floor cleaning.

Barrel filling and emptying system: RAPFLO-17

Features:

- Compressed air operated.
- Fits on standard 200 liter barrels.
- Capable of filling and emptying barrels at rapid speed of 6000 liters per hour.
- Quick install and mode change.
- Auto shut off to prevent over filling.
- Stainless steel construction.
- Can be used as large spill pick up system too.
- No moving part, no maintenance.
- Built in relief safety for pressure and vacuum.

Applications:

- Suction of coolants, non volatile liquids.
- Spill pick up from shop floors.
- Transfer of liquids to / from sump.
- Liquid recovery.



AIR AMPLIFYING PRODUCTS



Water Spray Nozzles : SPS-13



Features:

- Compressed air operated.
- Compact in size.
- Very low air consumption.
- Infinite air and water flow control.
- · Very fine size of water particles.

Applications:

- Cooling by evaporation.
- Mist spraying for cooling or lubrication.
- Humidification and wetting.
- Dust control.



Bottle and collapsible tube cleaning system (Custom ordered)

As per the regulations, industry packing cosmetics, medicinal powders and formulations in bottles or collapsible tube, need to clean them with simultanous suction and air blow.

Current practice is to blow compressed air and suction by high displacement vacuum pumps

Features:

- Lower capital cost as vacuum pump is replaced by economical compressed air operated vacuum generator.
- o Zero maintenance as no moving parts, no oil change.
- o Compact, space saving because of elimination of vacuum pump.
- o One pass operation.

Applications:

o Pharmaceuticals, cosmetics, food processing to clean bottles, collapsible tubes of tooth paste, ointment etc.

AIR AMPLIFYING PRODUCTS



BRIEF LIST OF CUSTOMERS

Textiles:

- Rishab Spinning mills, Ludhiana
- Rasi Technitex P. Ltd., Attur
- Priyadarshini Sahkari Soot Girani Ltd., Shirpur,
- Premier polytronics P. Ltd., Coimbatore
- Kandigiri Spinning Mills Ltd., Salem
- · Arvind Mills Ltd., Ahmedabad
- Sambandam Spinning mills Ltd., Namakkal
- · Visaka Induistries Ltd., Nagpur

Machinery Manufacturers

- Pharmalab Engineering India Ltd., Santaj
- Polymechplast Mchines Ltd., Vadodara
- Flamering Machine tools, Delhi
- Fenner India Ltd., Madurai
- Cincinati Milacron Ltd., Ahmedabad
- Cochin Shipvard Ltd., Cochin
- Mazgaon Dockyard Ltd., Mumbai

Automotive and Automotive Ancillary

- Premier Instruments & Controls Ltd., Coimbatore
- Punjab Anand Lamp Industries Ltd., Punjab
- Mahindra & Mahindra Ltd., Nasik
- LML Ltd., Lucknow
- Bajaj Auto Ltd., Aurangabad
- Kalyani Brakes Ltd., Jalgaon
- JK Tvres Ltd., Kankroli
- Gabriel India Ltd., Parwanoo
- Excide Industries Ltd., Calcutta
- Eicher Tractors Ltd., Alwar
- Maruti Udyog Ltd.
- Ceekay Daikin Ltd., Aurangabad
- Brakes India Ltd., Mysore
- Sundaram Brakes Ltd., Chennai
- Sab Wabco India Ltd., Hosur

Chemicals, Plastics and Pharmaceuticals

- National Organic Chemicals Ltd., Mumbai
- ITC Ltd., Bangalore
- Alembic Ltd., Vadodara
- Hoechst Schering AgrEvo Ltd., Ankleshwar
- Sunderam Plastics, Hosur
- Torrent Pharmaceuticles Ltd., Chatral

Engineering and Foundries

- Noveon Diamalt P. Ltd., Chennai
- NSY Energy consultancy services P. Ltd., Delhi
- Mamta Machineries Ltd., Ahmedabad
- Metal Closures P. Ltd., Bangalore
- Mazda Controls Ltd., Ahmedabad
- Maini Materials Movement P. Ltd., Bangalore.
- Hindalco Industries Ltd., Silvassa
- Madras Aluminum co. Ltd., Salem
- Laxmi Electric Control Systems Ltd., Coimbatore
- Ingersoll Rand India Ltd., Ahmedabad
- Larsen & Toubro Ltd., Mumbai
- Godrej Ltd., Mumbai
- Kirloskar Copeland Ltd., Satara
- TTL Ltd., Delhi
- Tata International Ltd., Dewas
- Thermax Babcock & Wilcox Ltd., Pune

Cement and Steel and Glass

- AP Cement Ltd., Anantapur
- Gujarat Glass Ltd., Kosamba
- Goa Glass Ltd., Goa
- Birla Cements Ltd., Solapur

Electronics & Appliances

- LG Electronics India P.Ltd.,
- Geep Industrial Syndicate Ltd., Allahabad
- Barco Hotline P.Ltd., Noida
- Samtel India Ltd., Parwanoo

AIR AMPLIFYING PRODUCTS



Notes

UNIQUE SPECIAL APPLICATION TOOLS & SYSTEMS

Vac Blow gun DHC-12



- Unique deep hole cleaning system.
- Capable to clean blind holes from 6 mm to 30 mm & upto 300 mm depth.
- Single lever operation.
- Washable dust collection bag.
- Light weight, break resistance and maintenance free.

CWR 16 Cable & tube Wiper, Real Wipe

- Wipe dry cables and tube, using compressed air.
- Openable design for quick install.
- Uniform 360° air flow for uniform cleaning.
- Adjustable flow and thrust.
- Saves air and cost over conventional drying.



Vac In Line



- Portable vacuum or blow off device.
- Can be used for conveying plastic pallets, small parts.
- Available in aluminum and stainless steel construction.
- Wide range of sizes from 20 mm upto 150 mm throat diameter.
- Saves great amount of compressed air when used as blower.

SPS-13 Water Spray Nozzles

- Spray very fine mist of water for cooling.
- Can be used as chamber humidifier.
- Variable water flow and air flow as well as throw of spray.
- Stainless steel construction for longer life.
- Also used in circular woven sacks looms.



Barrel filling and emptying system RAPFLO-17



- Transfers liquids to and from barrel at 6000 liters per hour .
- Compressed air operated, fast, efficient, maintenance free.
- Standard 200 liter barrel compatible.
- No motor, sparks, motor burn out.
- Auto shut off.

Accessories and add on

- Useful, versatile add on accessories.
- Improves functionalities of product.
- May help achieving reduction in operation time.
- Made from appropriate material for long life and economical price.





- Compressed air saving blow guns and nozzles.
- Compressed air operated vacuum guns and vacuum pumps
- Cable / tube wipers and driers
- Compressed air operated air curtains
- Compressed air operated vacuum conveying tools.
- Compressed air operated barrel filling and emptying system.
- Water Feed valves for washing machines, dish washers, water purifiers, Domestic and industrial RO systems.
- Dispensing valves for vending machines.
- Latching solenoid valves for automatic taps, faucets, urine flushers, cistern flushers.



For Further details, please contact:



General imsubs

AIR AMPLIFYING PRODUCTS

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